

SURFACE WATER & FOUL WATER DRAINAGE NETWORK DETAILS LAND OFF HOLLINGWORTH ROAD

Site at Hollingworth Road, Littleborough

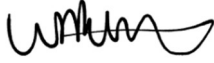
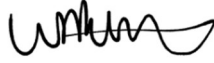
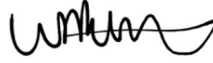
For

Bloor Homes
Rev. 3.0

4th June 2026

HOLLINGWORTH ROAD, LITTLEBOROUGH
Drainage Network Details

4th June 2026

Issue no.	Rev. 1.0	Rev. 2.0	Rev. 3.0
Date:	16 th February 2026	27 th April 2026	4 th June 2026
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Project no. BLH36

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		Betts Associates Ltd Old Marsh Farm Barns Flintshire		File: BLH36 - Littleborough.pfd Network: William Murphy 04/06/2026		Page 4 Land off Hollingworth Road Littleborough			
Design Settings									
Rainfall Methodology FSR				Maximum Time of Concentration (mins)		30.00			
Return Period (years) 1				Maximum Rainfall (mm/hr)		50.0			
Additional Flow (%) 0				Minimum Velocity (m/s)		1.00			
FSR Region England and Wales				Connection Type		Level Soffits			
M5-60 (mm) 19.200				Minimum Backdrop Height (m)		0.000			
Ratio-R 0.250				Preferred Cover Depth (m)		1.200			
CV 0.750				Include Intermediate Ground		✓			
Time of Entry (mins) 5.00				Enforce best practice design rules		x			
Nodes									
Name	Area (ha)	T of E (mins)	Add Inflow (l/s)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
S10	0.145	5.00		178.088	1800	393266.340	415393.944	2.829	175.259
S11	0.053	5.00		178.436	2100	393248.070	415372.739	3.342	175.094
S168				169.583	2100	393430.352	415344.641	1.824	167.759
S17	0.042	5.00		178.324	2100	393230.216	415351.972	3.298	175.026
S18	0.099	5.00		178.549	1800	393245.069	415342.416	1.877	176.672
S20	0.017	5.00		178.502	1200	393269.204	415332.981	4.079	174.423
Cells 1		5.00		164.000		393532.975	415341.774	2.506	161.494
CP1				164.000	1350	393536.009	415342.933	2.525	161.475
S169HW				168.485		393407.464	415363.518	1.750	166.735
S147		5.00		170.224	1200	393436.964	415339.188	1.661	168.563
S30	0.274	5.00		176.422	1800	393260.847	415293.078	2.335	174.087
S31	0.020	5.00		177.400	1800	393274.030	415308.449	3.363	174.037
S32	0.033	5.00		177.793	2100	393277.590	415315.572	3.776	174.017
S33	0.025	5.00		178.342	1800	393279.736	415329.619	4.361	173.981
S34	0.087	5.00		178.002	1800	393300.229	415327.569	4.072	173.930
S35	0.029	5.00		177.462	1500	393325.886	415328.207	4.208	173.254
S37	0.173	5.00		176.769	2100	393352.903	415329.016	4.226	172.543
S38	0.206	5.00		175.476	2100	393383.487	415329.869	6.050	169.426
S40	0.029	5.00		171.907	2400	393430.226	415329.515	3.740	168.167
S43	0.029	5.00		168.557	1350	393469.097	415330.024	4.191	164.366
S44	0.075	5.00		167.347	2400	393484.832	415342.098	7.068	160.279
S46	0.070	5.00		166.203	3000	393506.110	415356.244	5.985	160.218
S78	0.066	5.00		164.819	1800	393529.104	415365.449	3.369	161.450
S120				162.512	2400	393349.974	415570.201	5.348	157.164
S74	0.108	5.00		164.412	1800	393535.154	415288.352	2.700	161.712
S75	0.113	5.00		163.384	1800	393559.964	415297.434	1.813	161.571
S77	0.133	5.00		164.131	2100	393541.050	415344.791	2.688	161.443
S79	0.009	5.00		164.457	2100	393536.874	415354.624	3.041	161.416
S80HW				162.434		393555.376	415367.659	1.940	160.494
S83HW		5.00		162.434		393563.069	415390.221	2.000	160.434
S84	0.069	5.00		167.412	1350	393614.440	415432.114	1.721	165.691
S85	0.033	5.00		166.410	1500	393599.960	415426.393	1.728	164.682
S86	0.081	5.00		164.018	1500	393564.343	415415.123	1.625	162.393
S87HB	0.088	5.00		163.510	2700	393555.223	415409.453	3.131	160.379
S88HW				161.810		393546.315	415423.572	1.968	159.843
S167HW	0.031	5.00		161.810		393543.615	415435.815	2.000	159.810
S89HB				161.834	2400	393536.557	415445.229	2.041	159.793
S91	0.188	5.00		167.387	1350	393599.350	415510.849	2.543	164.844
S92	0.068	5.00		166.013	1500	393573.152	415504.579	3.342	162.671
S94	0.096	5.00		163.768	1500	393542.118	415497.454	3.399	160.369
S95	0.058	5.00		162.618	2100	393520.682	415492.783	5.334	157.284
S96	0.095	5.00		164.259	1350	393469.975	415447.741	1.584	162.675
S97	0.126	5.00		162.864	1500	393492.028	415469.161	1.877	160.987
S98				162.370	3000	393509.986	415486.804	5.117	157.253
S99	0.034	5.00		161.556	2700	393501.903	415500.896	4.345	157.211
S47	0.018	5.00		166.468	2700	393488.892	415388.556	6.337	160.131
S48	0.146	5.00		166.023	2700	393468.576	415409.555	5.967	160.056
S49	0.103	5.00		165.593	2700	393434.105	415444.271	5.662	159.931
S50	0.035	5.00		165.637	2700	393421.753	415463.724	5.765	159.872
S51	0.051	5.00		167.404	1800	393379.691	415462.389	7.189	160.215
S57HB	0.063	5.00		165.360	3000	393411.518	415480.721	5.537	159.823
S60	0.025	5.00		164.378	2700	393426.167	415489.849	7.057	157.321
CP6				162.630	1200	393347.632	415574.123	5.438	157.192
S61	0.165	5.00		162.466	2700	393461.631	415510.553	5.248	157.218
S100	0.015	5.00		161.078	3000	393488.336	415524.649	3.937	157.141
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Nodes

Name	Area (ha)	T of E (mins)	Add Inflow (l/s)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
S101	0.096	5.00		161.092	2700	393473.507	415552.792	4.032	157.060
S102	0.067	5.00		168.107	2100	393370.875	415453.856	6.800	161.307
S103	0.056	5.00		167.169	2400	393348.606	415473.417	5.937	161.232
S104	0.057	5.00		167.243	2100	393316.335	415491.011	6.037	161.206
S105				166.290	2700	393334.092	415501.148	5.135	161.155
S106HB	0.071	5.00		165.247	2700	393353.234	415512.075	4.147	161.100
S107	0.234	5.00		163.283	2700	393393.044	415534.994	6.078	157.205
S108	0.028	5.00		162.563	2700	393413.195	415546.710	5.416	157.147
S109	0.079	5.00		161.633	2700	393441.786	415563.943	4.570	157.063
S146				170.001	1200	393230.884	415544.974	4.151	165.850
S110	0.023	5.00		161.112	3000	393464.976	415576.421	4.115	156.997
S112HB	0.083	5.00		161.119	2700	393443.653	415619.524	4.243	156.876
S113HW				157.799		393436.612	415633.943	1.825	155.974
S114HW		5.00		157.799		393371.074	415602.613	2.000	155.799
S166				145.130		393135.525	415672.257	1.425	143.705
S116	0.119	5.00		165.288	1200	393308.409	415547.364	2.607	162.681
S117	0.164	5.00		163.411	2400	393337.635	415562.823	6.211	157.200
S121	0.056	5.00		162.700	2100	393386.462	415546.077	5.485	157.215
S122HB	0.098	5.00		161.363	3000	393366.452	415580.054	4.247	157.116
Cells 6		5.00		162.586		393346.052	415576.674	5.377	157.209
S115HB				160.051	2400	393369.658	415591.334	4.290	155.761
SW PENSTOCK				161.700	1800	393362.342	415587.277	5.961	155.739
SWPS				161.700	2400	393360.320	415590.676	6.971	154.729
S149HW		5.00		168.485		393339.196	415425.541	2.000	166.485
S150HB	0.189	5.00		168.485	2400	393334.800	415429.971	2.172	166.313
S151HW				167.500		393323.844	415443.058	1.915	165.585
S152HW		5.00		167.500		393307.454	415473.058	2.000	165.500
S153HB	0.045	5.00		167.500	2400	393303.946	415479.090	2.094	165.406
S154HW				166.356		393296.613	415491.993	1.856	164.500
S155HW		5.00		166.356		393266.516	415540.793	2.001	164.355
S156HB				166.356	1800	393261.054	415545.901	2.069	164.287
S157				169.306	1200	393241.403	415539.990	5.290	164.016
S124	0.077	5.00		177.670	1500	393239.605	415449.867	2.665	175.005
S125	0.032	5.00		178.081	1800	393229.455	415440.095	3.111	174.970
S126	0.127	5.00		178.495	1800	393214.553	415423.260	3.581	174.914
S127	0.053	5.00		178.098	1800	393218.194	415362.269	3.112	174.986
S128	0.132	5.00		177.783	1800	393200.943	415377.489	2.854	174.929
S129	0.168	5.00		177.579	1800	393186.150	415390.596	2.775	174.804
S130	0.128	5.00		177.335	1800	393143.921	415426.904	2.670	174.665
S131	0.132	5.00		177.066	2100	393158.996	415445.181	2.460	174.606
S132	0.108	5.00		177.263	2100	393170.616	415459.340	2.703	174.560
S133				177.202	1800	393186.261	415476.812	3.325	173.877
S134	0.125	5.00		177.067	2100	393190.632	415486.786	3.480	173.587
S135	0.039	5.00		174.948	1800	393152.084	415505.076	2.577	172.371
S136	0.013	5.00		174.084	1800	393136.379	415512.166	2.204	171.880
S137	0.041	5.00		173.497	2100	393125.077	415513.763	1.942	171.555
S139	0.102	5.00		173.199	2100	393117.887	415491.690	2.006	171.193
S141HW				172.486		393099.394	415498.393	1.920	170.566
S142HW		5.00		172.486		393105.837	415528.823	2.000	170.486
S143HB				172.467	2400	393112.069	415533.484	1.999	170.468
S144	0.071	5.00		173.556	1200	393129.034	415546.117	3.229	170.327
S145				171.924	1200	393189.547	415546.117	4.112	167.812
S158				169.417	1200	393235.583	415548.276	5.603	163.814
S159				165.000	1200	393215.986	415577.798	4.143	160.857
S160				162.000	1200	393209.862	415587.873	3.233	158.767
S161				159.000	1200	393203.347	415598.111	2.836	156.164
S162				155.500	1200	393183.439	415627.206	4.041	151.459
S163				151.000	1200	393169.349	415646.574	3.218	147.782
S164				147.600	1200	393142.652	415661.376	3.817	143.783
S165				146.410	1350	393138.489	415667.732	2.672	143.738
Cells 7		5.00		160.481		393448.852	415622.557	3.569	156.912

Nodes

Name	Area (ha)	T of E (mins)	Add Inflow (l/s)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
CP7				161.195	1350	393446.510	415621.053	4.299	156.896
S81		5.00	5.0	162.396		393574.251	415373.630	1.045	161.351
S82HW				162.434		393571.543	415374.586	1.940	160.494
S90				161.873	2700	393533.856	415449.456	4.518	157.355

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
18.000	S10	S11	27.990	0.600	175.259	175.169	0.090	311.0	375	5.46	40.1
18.001	S11	S17	27.387	0.600	175.094	175.026	0.068	402.7	450	5.91	38.9
18.002	S17	S127	15.829	0.600	175.026	174.986	0.040	395.7	450	6.17	38.3
19.000	S18	S17	17.662	0.600	176.672	175.251	1.421	12.4	225	5.08	41.2
16.008	S40	S168	15.127	0.600	168.167	167.759	0.408	37.1	600	6.62	37.2
17.000	S20	S33	11.056	0.600	174.423	174.362	0.061	181.2	225	5.19	40.9
4.000	Cells 1	CP1	3.248	0.600	161.494	161.475	0.019	170.9	225	5.05	41.3
4.001	CP1	S77	5.395	0.600	161.825	162.100	-0.275	-19.6	225	14.70	25.7
16.009	S168	S169HW	29.668	0.600	167.759	167.017	0.742	40.0	600	6.75	36.9
21.000	S147	S168	8.571	0.600	168.563	168.134	0.429	20.0	225	5.05	41.3
16.000	S30	S31	20.251	0.600	174.087	174.037	0.050	405.0	450	5.34	40.5
16.001	S31	S32	7.963	0.600	174.037	174.017	0.020	398.2	450	5.47	40.1
16.002	S32	S33	14.210	0.600	174.017	173.981	0.036	394.7	450	5.70	39.5
16.003	S33	S34	20.595	0.600	173.981	173.930	0.051	403.8	450	6.04	38.6
16.004	S34	S35	25.664	0.600	173.930	173.254	0.676	38.0	450	6.17	38.3
16.005	S35	S37	27.029	0.600	173.254	172.543	0.711	38.0	450	6.31	37.9
16.006	S37	S38	30.596	0.600	172.543	171.738	0.805	38.0	450	6.46	37.6
16.007	S38	S40	29.610	0.600	169.426	168.167	1.259	23.5	600	6.56	37.3
1.000	S43	S44	17.731	0.600	164.366	162.754	1.612	11.0	225	5.07	41.2
1.001	S44	S46	24.339	0.600	160.279	160.218	0.061	399.0	1200	5.29	40.6
1.002	S46	S47	34.659	0.600	160.218	160.131	0.087	398.4	1200	5.60	39.7
5.000	S78	S79	13.325	0.600	161.450	161.416	0.034	391.9	450	5.22	40.8
10.006	S109	S110	26.334	0.600	157.063	156.997	0.066	399.0	1200	6.92	36.5
3.000	S74	S75	26.396	0.600	161.712	161.646	0.066	399.9	450	5.44	40.2
3.001	S75	S77	51.060	0.600	161.571	161.443	0.128	398.9	525	6.20	38.2

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
18.000	1.022	112.9	15.8	2.454	2.892	0.145	0.0	94	0.727
18.001	1.007	160.1	20.9	2.892	2.848	0.198	0.0	109	0.705
18.002	1.016	161.5	35.1	2.848	2.662	0.338	0.0	142	0.818
19.000	3.731	148.4	11.0	1.652	2.848	0.099	0.0	41	2.197
16.008	4.007	1133.0	90.0	3.140	1.224	0.893	0.0	113	2.443
17.000	0.968	38.5	1.9	3.854	3.755	0.017	0.0	34	0.504
4.000	0.997	39.6	0.0	2.281	2.300	0.000	0.0	0	0.000
4.001	0.009	0.4	0.0	1.950	1.806	0.000	0.0	0	0.000
16.009	3.858	1090.9	89.3	1.224	0.868	0.893	0.0	115	2.373
21.000	2.940	116.9	0.0	1.436	1.224	0.000	0.0	0	0.000
16.000	1.004	159.6	30.0	1.885	2.913	0.274	0.0	131	0.776
16.001	1.012	161.0	32.0	2.913	3.326	0.294	0.0	135	0.794
16.002	1.017	161.7	35.0	3.326	3.911	0.327	0.0	141	0.817
16.003	1.005	159.9	38.6	3.911	3.622	0.369	0.0	150	0.833
16.004	3.307	526.0	47.3	3.622	3.758	0.456	0.0	90	2.082
16.005	3.305	525.6	49.9	3.758	3.776	0.485	0.0	93	2.115
16.006	3.305	525.7	67.0	3.776	3.288	0.658	0.0	108	2.301
16.007	5.035	1423.5	87.5	5.450	3.140	0.864	0.0	99	2.853
1.000	3.967	157.7	3.2	3.966	4.368	0.029	0.0	22	1.609
1.001	1.866	2110.8	11.4	5.868	4.785	0.104	0.0	62	0.520
1.002	1.868	2112.5	18.7	4.785	5.137	0.173	0.0	78	0.602
5.000	1.021	162.3	7.3	2.919	2.591	0.066	0.0	65	0.525
10.006	1.866	2110.8	58.7	3.370	2.915	0.593	0.0	134	0.845
3.000	1.010	160.7	11.8	2.250	1.288	0.108	0.0	82	0.600
3.001	1.115	241.4	22.9	1.288	2.163	0.221	0.0	108	0.711

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
20.000	S124	S125	14.090	0.600	175.005	174.970	0.035	402.6	450	5.23	40.8
20.001	S125	S126	22.484	0.600	174.970	174.914	0.056	401.5	450	5.60	39.7
20.002	S126	S129	43.857	0.600	174.914	174.804	0.110	398.7	450	6.33	37.9
18.003	S127	S128	22.977	0.600	174.986	174.929	0.057	403.1	450	6.55	37.4
18.004	S128	S129	19.892	0.600	174.929	174.879	0.050	397.8	450	6.88	36.6
18.005	S129	S130	55.692	0.600	174.804	174.665	0.139	400.7	525	7.71	34.9
16.027	S165	S166	5.409	0.600	143.738	143.705	0.033	163.9	225	7.28	35.8
18.006	S130	S131	23.563	0.600	174.665	174.606	0.059	399.4	525	8.06	34.2
18.007	S131	S132	18.557	0.600	174.606	174.560	0.046	403.4	525	8.34	33.7
18.008	S132	S133	23.980	0.600	174.560	173.877	0.683	35.1	525	8.45	33.5
18.009	S133	S134	10.162	0.600	173.877	173.587	0.290	35.0	525	8.49	33.4
18.010	S134	S135	42.667	0.600	173.587	172.371	1.216	35.1	525	8.68	33.1
18.011	S135	S136	17.231	0.600	172.371	171.880	0.491	35.1	525	8.76	33.0
18.012	S136	S137	11.414	0.600	171.880	171.555	0.325	35.1	525	8.81	32.9
18.013	S137	S139	23.214	0.600	171.555	171.193	0.362	64.1	525	8.95	32.6
12.000	Cells 7	CP7	2.783	0.600	156.912	156.896	0.016	174.0	225	5.05	41.3
18.016	S142HW	S143HB	6.058	0.600	170.486	170.468	0.018	336.6	450	5.09	41.2
18.017	S143HB	S144	21.152	0.600	170.468	170.327	0.141	150.0	225	5.42	40.2
18.018	S144	S145	60.513	0.600	170.327	169.312	1.015	59.6	225	6.02	38.7
16.020	S158	S159	35.435	0.600	163.814	162.371	1.443	24.6	225	6.57	37.3
16.021	S159	S160	11.790	0.600	160.857	160.267	0.590	20.0	225	6.63	37.2
16.022	S160	S161	12.134	0.600	158.767	157.664	1.103	11.0	225	6.68	37.0
16.023	S161	S162	35.255	0.600	156.164	152.959	3.205	11.0	225	6.83	36.7
16.024	S162	S163	23.951	0.600	151.459	149.282	2.177	11.0	225	6.93	36.5
16.025	S163	S164	30.526	0.600	147.782	145.007	2.775	11.0	225	7.06	36.2
16.026	S164	S165	7.598	0.600	143.783	143.738	0.045	168.8	225	7.19	35.9
6.000	S81	S82HW	5.704	0.600	161.351	161.300	0.051	111.8	150	5.10	41.2
3.010	S90	S98	40.625	0.600	157.355	157.253	0.102	398.3	1200	5.58	39.8

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
20.000	1.007	160.1	8.5	2.215	2.661	0.077	0.0	70	0.543
20.001	1.008	160.3	11.8	2.661	3.131	0.109	0.0	82	0.599
20.002	1.012	160.9	24.3	3.131	2.325	0.237	0.0	117	0.736
18.003	1.006	160.0	39.6	2.662	2.404	0.391	0.0	152	0.838
18.004	1.013	161.1	52.0	2.404	2.250	0.524	0.0	175	0.907
18.005	1.113	240.8	87.8	2.250	2.145	0.928	0.0	219	1.028
16.027	1.018	40.5	6.9	2.447	1.200	0.071	0.0	63	0.765
18.006	1.114	241.2	98.0	2.145	1.935	1.057	0.0	233	1.059
18.007	1.109	240.0	108.5	1.935	2.178	1.188	0.0	247	1.082
18.008	3.789	820.1	117.7	2.178	2.800	1.296	0.0	133	2.726
18.009	3.792	820.9	117.4	2.800	2.955	1.296	0.0	133	2.729
18.010	3.790	820.4	127.5	2.955	2.052	1.421	0.0	139	2.789
18.011	3.789	820.3	130.5	2.052	1.679	1.461	0.0	140	2.805
18.012	3.788	820.0	131.3	1.679	1.417	1.473	0.0	141	2.810
18.013	2.800	606.1	134.0	1.417	1.481	1.514	0.0	167	2.270
12.000	0.988	39.3	0.0	3.344	4.074	0.000	0.0	0	0.000
18.016	1.102	175.3	0.0	1.550	1.549	0.000	0.0	0	0.000
18.017	1.065	42.3	0.0	1.774	3.004	0.000	0.0	0	0.000
18.018	1.697	67.5	7.5	3.004	2.387	0.071	0.0	51	1.129
16.020	2.651	105.4	7.2	5.378	2.404	0.071	0.0	40	1.539
16.021	2.940	116.9	7.2	3.918	1.508	0.071	0.0	37	1.639
16.022	3.967	157.7	7.1	3.008	1.111	0.071	0.0	32	2.017
16.023	3.967	157.7	7.1	2.611	2.316	0.071	0.0	32	2.017
16.024	3.967	157.7	7.0	3.816	1.493	0.071	0.0	32	2.017
16.025	3.967	157.7	7.0	2.993	2.368	0.071	0.0	32	2.017
16.026	1.003	39.9	6.9	3.592	2.447	0.071	0.0	64	0.759
6.000	0.949	16.8	5.0	0.895	0.984	0.000	5.0	56	0.828
3.010	1.868	2112.7	3.3	3.318	3.917	0.031	0.0	35	0.358

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
12.001	CP7	S112HB	3.240	0.600	158.245	158.400	-0.155	-20.9	300	9.69	31.5

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
12.001	0.012	0.8	0.0	2.650	2.419	0.000	0.0	0	0.000

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
18.000	27.990	311.0	375	Circular	178.088	175.259	2.454	178.436	175.169	2.892
18.001	27.387	402.7	450	Circular	178.436	175.094	2.892	178.324	175.026	2.848
18.002	15.829	395.7	450	Circular	178.324	175.026	2.848	178.098	174.986	2.662
19.000	17.662	12.4	225	Circular	178.549	176.672	1.652	178.324	175.251	2.848
16.008	15.127	37.1	600	Circular	171.907	168.167	3.140	169.583	167.759	1.224
17.000	11.056	181.2	225	Circular	178.502	174.423	3.854	178.342	174.362	3.755
4.000	3.248	170.9	225	Circular	164.000	161.494	2.281	164.000	161.475	2.300
4.001	5.395	-19.6	225	Circular	164.000	161.825	1.950	164.131	162.100	1.806
16.009	29.668	40.0	600	Circular	169.583	167.759	1.224	168.485	167.017	0.868
21.000	8.571	20.0	225	Circular	170.224	168.563	1.436	169.583	168.134	1.224
16.000	20.251	405.0	450	Circular	176.422	174.087	1.885	177.400	174.037	2.913
16.001	7.963	398.2	450	Circular	177.400	174.037	2.913	177.793	174.017	3.326
16.002	14.210	394.7	450	Circular	177.793	174.017	3.326	178.342	173.981	3.911
16.003	20.595	403.8	450	Circular	178.342	173.981	3.911	178.002	173.930	3.622
16.004	25.664	38.0	450	Circular	178.002	173.930	3.622	177.462	173.254	3.758
16.005	27.029	38.0	450	Circular	177.462	173.254	3.758	176.769	172.543	3.776
16.006	30.596	38.0	450	Circular	176.769	172.543	3.776	175.476	171.738	3.288
16.007	29.610	23.5	600	Circular	175.476	169.426	5.450	171.907	168.167	3.140
1.000	17.731	11.0	225	Circular	168.557	164.366	3.966	167.347	162.754	4.368
1.001	24.339	399.0	1200	Circular	167.347	160.279	5.868	166.203	160.218	4.785
1.002	34.659	398.4	1200	Circular	166.203	160.218	4.785	166.468	160.131	5.137
5.000	13.325	391.9	450	Circular	164.819	161.450	2.919	164.457	161.416	2.591
10.006	26.334	399.0	1200	Circular	161.633	157.063	3.370	161.112	156.997	2.915
3.000	26.396	399.9	450	Circular	164.412	161.712	2.250	163.384	161.646	1.288

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
18.000	S10	1800	Manhole	Adoptable	S11	2100	Manhole	Adoptable
18.001	S11	2100	Manhole	Adoptable	S17	2100	Manhole	Adoptable
18.002	S17	2100	Manhole	Adoptable	S127	1800	Manhole	Adoptable
19.000	S18	1800	Manhole	Adoptable	S17	2100	Manhole	Adoptable
16.008	S40	2400	Manhole	Adoptable	S168	2100	Manhole	Adoptable
17.000	S20	1200	Manhole	Adoptable	S33	1800	Manhole	Adoptable
4.000	Cells 1		Junction		CP1	1350	Manhole	Adoptable
4.001	CP1	1350	Manhole	Adoptable	S77	2100	Manhole	Adoptable
16.009	S168	2100	Manhole	Adoptable	S169HW		Junction	
21.000	S147	1200	Manhole	Adoptable	S168	2100	Manhole	Adoptable
16.000	S30	1800	Manhole	Adoptable	S31	1800	Manhole	Adoptable
16.001	S31	1800	Manhole	Adoptable	S32	2100	Manhole	Adoptable
16.002	S32	2100	Manhole	Adoptable	S33	1800	Manhole	Adoptable
16.003	S33	1800	Manhole	Adoptable	S34	1800	Manhole	Adoptable
16.004	S34	1800	Manhole	Adoptable	S35	1500	Manhole	Adoptable
16.005	S35	1500	Manhole	Adoptable	S37	2100	Manhole	Adoptable
16.006	S37	2100	Manhole	Adoptable	S38	2100	Manhole	Adoptable
16.007	S38	2100	Manhole	Adoptable	S40	2400	Manhole	Adoptable
1.000	S43	1350	Manhole	Adoptable	S44	2400	Manhole	Adoptable
1.001	S44	2400	Manhole	Adoptable	S46	3000	Manhole	Adoptable
1.002	S46	3000	Manhole	Adoptable	S47	2700	Manhole	Adoptable
5.000	S78	1800	Manhole	Adoptable	S79	2100	Manhole	Adoptable
10.006	S109	2700	Manhole	Adoptable	S110	3000	Manhole	Adoptable
3.000	S74	1800	Manhole	Adoptable	S75	1800	Manhole	Adoptable

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
3.001	51.060	398.9	525	Circular	163.384	161.571	1.288	164.131	161.443	2.163
3.002	10.683	395.7	525	Circular	164.131	161.443	2.163	164.457	161.416	2.516
3.003	22.632	36.2	450	Circular	164.457	161.416	2.591	162.434	160.791	1.193
3.005	20.770	377.6	450	Circular	162.434	160.434	1.550	163.510	160.379	2.681
7.000	15.569	16.7	150	Circular	167.412	165.691	1.571	166.410	164.757	1.503
7.001	37.358	16.3	225	Circular	166.410	164.682	1.503	164.018	162.393	1.400
7.002	10.739	11.7	225	Circular	164.018	162.393	1.400	163.510	161.472	1.813
3.006	16.694	73.9	225	Circular	163.510	160.379	2.906	161.810	160.153	1.432
3.008	6.920	407.1	450	Circular	161.810	159.810	1.550	161.834	159.793	1.591
3.009	7.072	80.4	150	Circular	161.834	159.793	1.891	161.873	159.705	2.018
8.000	26.938	40.0	225	Circular	167.387	164.844	2.318	166.013	164.171	1.617
8.001	32.064	40.0	225	Circular	166.013	162.671	3.117	163.768	161.869	1.674
8.002	21.716	31.7	300	Circular	163.768	160.369	3.099	162.618	159.684	2.634
8.003	12.384	399.5	1200	Circular	162.618	157.284	4.134	162.370	157.253	3.917
9.000	30.743	19.1	225	Circular	164.259	162.675	1.359	162.864	161.062	1.577
9.001	24.903	18.7	300	Circular	162.864	160.987	1.577	162.370	159.653	2.417
3.011	16.887	402.1	1200	Circular	162.370	157.253	3.917	161.556	157.211	3.145
3.012	27.907	398.7	1200	Circular	161.556	157.211	3.145	161.078	157.141	2.737
1.003	30.260	403.5	1200	Circular	166.468	160.131	5.137	166.023	160.056	4.767
1.004	49.876	399.0	1200	Circular	166.023	160.056	4.767	165.593	159.931	4.462
1.005	23.636	400.6	1200	Circular	165.593	159.931	4.462	165.637	159.872	4.565
1.006	19.575	400.0	1200	Circular	165.637	159.872	4.565	165.360	159.823	4.337
2.000	35.190	382.5	900	Circular	167.404	160.215	6.289	165.360	160.123	4.337
1.007	18.752	13.6	225	Circular	165.360	159.823	5.312	164.378	158.446	5.707
1.008	41.109	399.1	1200	Circular	164.378	157.321	5.857	162.466	157.218	4.048
1.015	15.390	405.0	450	Circular	157.799	155.799	1.550	160.051	155.761	3.840
1.009	30.953	402.0	1200	Circular	162.466	157.218	4.048	161.078	157.141	2.737
1.010	31.669	391.0	1200	Circular	161.078	157.141	2.737	161.092	157.060	2.832
1.011	25.122	398.8	1200	Circular	161.092	157.060	2.832	161.112	156.997	2.915
10.000	29.640	395.2	1200	Circular	168.107	161.307	5.600	167.169	161.232	4.737

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
3.001	S75	1800	Manhole	Adoptable	S77	2100	Manhole	Adoptable
3.002	S77	2100	Manhole	Adoptable	S79	2100	Manhole	Adoptable
3.003	S79	2100	Manhole	Adoptable	S80HW		Junction	
3.005	S83HW		Junction		S87HB	2700	Manhole	Adoptable
7.000	S84	1350	Manhole	Adoptable	S85	1500	Manhole	Adoptable
7.001	S85	1500	Manhole	Adoptable	S86	1500	Manhole	Adoptable
7.002	S86	1500	Manhole	Adoptable	S87HB	2700	Manhole	Adoptable
3.006	S87HB	2700	Manhole	Adoptable	S88HW		Junction	
3.008	S167HW		Junction		S89HB	2400	Manhole	Adoptable
3.009	S89HB	2400	Manhole	Adoptable	S90	2700	Manhole	Adoptable
8.000	S91	1350	Manhole	Adoptable	S92	1500	Manhole	Adoptable
8.001	S92	1500	Manhole	Adoptable	S94	1500	Manhole	Adoptable
8.002	S94	1500	Manhole	Adoptable	S95	2100	Manhole	Adoptable
8.003	S95	2100	Manhole	Adoptable	S98	3000	Manhole	Adoptable
9.000	S96	1350	Manhole	Adoptable	S97	1500	Manhole	Adoptable
9.001	S97	1500	Manhole	Adoptable	S98	3000	Manhole	Adoptable
3.011	S98	3000	Manhole	Adoptable	S99	2700	Manhole	Adoptable
3.012	S99	2700	Manhole	Adoptable	S100	3000	Manhole	Adoptable
1.003	S47	2700	Manhole	Adoptable	S48	2700	Manhole	Adoptable
1.004	S48	2700	Manhole	Adoptable	S49	2700	Manhole	Adoptable
1.005	S49	2700	Manhole	Adoptable	S50	2700	Manhole	Adoptable
1.006	S50	2700	Manhole	Adoptable	S57HB	3000	Manhole	Adoptable
2.000	S51	1800	Manhole	Adoptable	S57HB	3000	Manhole	Adoptable
1.007	S57HB	3000	Manhole	Adoptable	S60	2700	Manhole	Adoptable
1.008	S60	2700	Manhole	Adoptable	S61	2700	Manhole	Adoptable
1.015	S114HW		Junction		S115HB	2400	Manhole	Adoptable
1.009	S61	2700	Manhole	Adoptable	S100	3000	Manhole	Adoptable
1.010	S100	3000	Manhole	Adoptable	S101	2700	Manhole	Adoptable
1.011	S101	2700	Manhole	Adoptable	S110	3000	Manhole	Adoptable
10.000	S102	2100	Manhole	Adoptable	S103	2400	Manhole	Adoptable

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
10.001	30.898	401.3	1200	Circular	167.169	161.232	4.737	166.290	161.155	3.935
11.000	20.146	395.0	1200	Circular	167.243	161.206	4.837	166.290	161.155	3.935
10.002	22.092	401.7	1200	Circular	166.290	161.155	3.935	165.247	161.100	2.947
10.003	46.023	34.2	150	Circular	165.247	161.100	3.997	163.283	159.755	3.378
10.004	23.309	401.9	1200	Circular	163.283	157.205	4.878	162.563	157.147	4.216
10.005	33.383	397.4	1200	Circular	162.563	157.147	4.216	161.633	157.063	3.370
13.001	14.377	399.3	1200	Circular	163.411	157.200	5.011	162.512	157.164	4.148
13.002	19.199	400.0	1200	Circular	162.512	157.164	4.148	161.363	157.116	3.047
1.012	48.089	397.4	1200	Circular	161.112	156.997	2.915	161.119	156.876	3.043
1.013	17.250	28.5	300	Circular	161.119	156.876	3.943	157.799	156.270	1.229
14.001	3.001	176.5	225	Circular	162.586	157.209	5.152	162.630	157.192	5.213
14.000	4.568	-19.8	225	Circular	162.630	160.000	2.405	162.512	160.231	2.056
18.014	19.670	60.0	525	Circular	173.199	171.193	1.481	172.486	170.865	1.096
13.000	33.062	11.0	225	Circular	165.288	162.681	2.382	163.411	159.675	3.511
13.003	8.311	169.6	225	Circular	161.363	157.116	4.022	161.700	157.067	4.408
15.000	39.432	398.3	1200	Circular	162.700	157.215	4.285	161.363	157.116	3.047
18.019	41.353	33.1	225	Circular	171.924	167.812	3.887	170.001	166.562	3.214
18.020	5.743	10.7	225	Circular	170.001	165.850	3.926	169.417	165.314	3.878
1.016	8.366	380.3	450	Circular	160.051	155.761	3.840	161.700	155.739	5.511
1.017	3.955	395.5	450	Circular	161.700	155.739	5.511	161.700	155.729	5.521
16.011	7.081	41.2	450	Circular	168.485	166.485	1.550	168.485	166.313	1.722
16.012	16.225	37.9	300	Circular	168.485	166.313	1.872	167.500	165.885	1.315
16.014	7.390	78.6	450	Circular	167.500	165.500	1.550	167.500	165.406	1.644
16.015	15.670	25.4	225	Circular	167.500	165.406	1.869	166.356	164.789	1.342
16.017	7.208	106.0	450	Circular	166.356	164.355	1.551	166.356	164.287	1.619
16.018	21.645	79.9	150	Circular	166.356	164.287	1.919	169.306	164.016	5.140
16.019	10.126	79.7	150	Circular	169.306	164.016	5.140	169.417	163.889	5.378
20.000	14.090	402.6	450	Circular	177.670	175.005	2.215	178.081	174.970	2.661

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
10.001	S103	2400	Manhole	Adoptable	S105	2700	Manhole	Adoptable
11.000	S104	2100	Manhole	Adoptable	S105	2700	Manhole	Adoptable
10.002	S105	2700	Manhole	Adoptable	S106HB	2700	Manhole	Adoptable
10.003	S106HB	2700	Manhole	Adoptable	S107	2700	Manhole	Adoptable
10.004	S107	2700	Manhole	Adoptable	S108	2700	Manhole	Adoptable
10.005	S108	2700	Manhole	Adoptable	S109	2700	Manhole	Adoptable
13.001	S117	2400	Manhole	Adoptable	S120	2400	Manhole	Adoptable
13.002	S120	2400	Manhole	Adoptable	S122HB	3000	Manhole	Adoptable
1.012	S110	3000	Manhole	Adoptable	S112HB	2700	Manhole	Adoptable
1.013	S112HB	2700	Manhole	Adoptable	S113HW		Junction	
14.001	Cells 6		Junction		CP6	1200	Manhole	Adoptable
14.000	CP6	1200	Manhole	Adoptable	S120	2400	Manhole	Adoptable
18.014	S139	2100	Manhole	Adoptable	S141HW		Junction	
13.000	S116	1200	Manhole	Adoptable	S117	2400	Manhole	Adoptable
13.003	S122HB	3000	Manhole	Adoptable	SW PENSTOCK	1800	Manhole	Adoptable
15.000	S121	2100	Manhole	Adoptable	S122HB	3000	Manhole	Adoptable
18.019	S145	1200	Manhole	Adoptable	S146	1200	Manhole	Adoptable
18.020	S146	1200	Manhole	Adoptable	S158	1200	Manhole	Adoptable
1.016	S115HB	2400	Manhole	Adoptable	SW PENSTOCK	1800	Manhole	Adoptable
1.017	SW PENSTOCK	1800	Manhole	Adoptable	SWPS	2400	Manhole	Adoptable
16.011	S149HW		Junction		S150HB	2400	Manhole	Adoptable
16.012	S150HB	2400	Manhole	Adoptable	S151HW		Junction	
16.014	S152HW		Junction		S153HB	2400	Manhole	Adoptable
16.015	S153HB	2400	Manhole	Adoptable	S154HW		Junction	
16.017	S155HW		Junction		S156HB	1800	Manhole	Adoptable
16.018	S156HB	1800	Manhole	Adoptable	S157	1200	Manhole	Adoptable
16.019	S157	1200	Manhole	Adoptable	S158	1200	Manhole	Adoptable
20.000	S124	1500	Manhole	Adoptable	S125	1800	Manhole	Adoptable

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
20.001	22.484	401.5	450	Circular	178.081	174.970	2.661	178.495	174.914	3.131
20.002	43.857	398.7	450	Circular	178.495	174.914	3.131	177.579	174.804	2.325
18.003	22.977	403.1	450	Circular	178.098	174.986	2.662	177.783	174.929	2.404
18.004	19.892	397.8	450	Circular	177.783	174.929	2.404	177.579	174.879	2.250
18.005	55.692	400.7	525	Circular	177.579	174.804	2.250	177.335	174.665	2.145
16.027	5.409	163.9	225	Circular	146.410	143.738	2.447	145.130	143.705	1.200
18.006	23.563	399.4	525	Circular	177.335	174.665	2.145	177.066	174.606	1.935
18.007	18.557	403.4	525	Circular	177.066	174.606	1.935	177.263	174.560	2.178
18.008	23.980	35.1	525	Circular	177.263	174.560	2.178	177.202	173.877	2.800
18.009	10.162	35.0	525	Circular	177.202	173.877	2.800	177.067	173.587	2.955
18.010	42.667	35.1	525	Circular	177.067	173.587	2.955	174.948	172.371	2.052
18.011	17.231	35.1	525	Circular	174.948	172.371	2.052	174.084	171.880	1.679
18.012	11.414	35.1	525	Circular	174.084	171.880	1.679	173.497	171.555	1.417
18.013	23.214	64.1	525	Circular	173.497	171.555	1.417	173.199	171.193	1.481
12.000	2.783	174.0	225	Circular	160.481	156.912	3.344	161.195	156.896	4.074
18.016	6.058	336.6	450	Circular	172.486	170.486	1.550	172.467	170.468	1.549
18.017	21.152	150.0	225	Circular	172.467	170.468	1.774	173.556	170.327	3.004
18.018	60.513	59.6	225	Circular	173.556	170.327	3.004	171.924	169.312	2.387
16.020	35.435	24.6	225	Circular	169.417	163.814	5.378	165.000	162.371	2.404
16.021	11.790	20.0	225	Circular	165.000	160.857	3.918	162.000	160.267	1.508
16.022	12.134	11.0	225	Circular	162.000	158.767	3.008	159.000	157.664	1.111
16.023	35.255	11.0	225	Circular	159.000	156.164	2.611	155.500	152.959	2.316
16.024	23.951	11.0	225	Circular	155.500	151.459	3.816	151.000	149.282	1.493
16.025	30.526	11.0	225	Circular	151.000	147.782	2.993	147.600	145.007	2.368
16.026	7.598	168.8	225	Circular	147.600	143.783	3.592	146.410	143.738	2.447
6.000	5.704	111.8	150	Circular	162.396	161.351	0.895	162.434	161.300	0.984
3.010	40.625	398.3	1200	Circular	161.873	157.355	3.318	162.370	157.253	3.917
12.001	3.240	-20.9	300	Circular	161.195	158.245	2.650	161.119	158.400	2.419

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
20.001	S125	1800	Manhole	Adoptable	S126	1800	Manhole	Adoptable
20.002	S126	1800	Manhole	Adoptable	S129	1800	Manhole	Adoptable
18.003	S127	1800	Manhole	Adoptable	S128	1800	Manhole	Adoptable
18.004	S128	1800	Manhole	Adoptable	S129	1800	Manhole	Adoptable
18.005	S129	1800	Manhole	Adoptable	S130	1800	Manhole	Adoptable
16.027	S165	1350	Manhole	Adoptable	S166		Junction	
18.006	S130	1800	Manhole	Adoptable	S131	2100	Manhole	Adoptable
18.007	S131	2100	Manhole	Adoptable	S132	2100	Manhole	Adoptable
18.008	S132	2100	Manhole	Adoptable	S133	1800	Manhole	Adoptable
18.009	S133	1800	Manhole	Adoptable	S134	2100	Manhole	Adoptable
18.010	S134	2100	Manhole	Adoptable	S135	1800	Manhole	Adoptable
18.011	S135	1800	Manhole	Adoptable	S136	1800	Manhole	Adoptable
18.012	S136	1800	Manhole	Adoptable	S137	2100	Manhole	Adoptable
18.013	S137	2100	Manhole	Adoptable	S139	2100	Manhole	Adoptable
12.000	Cells 7		Junction		CP7	1350	Manhole	Adoptable
18.016	S142HW		Junction		S143HB	2400	Manhole	Adoptable
18.017	S143HB	2400	Manhole	Adoptable	S144	1200	Manhole	Adoptable
18.018	S144	1200	Manhole	Adoptable	S145	1200	Manhole	Adoptable
16.020	S158	1200	Manhole	Adoptable	S159	1200	Manhole	Adoptable
16.021	S159	1200	Manhole	Adoptable	S160	1200	Manhole	Adoptable
16.022	S160	1200	Manhole	Adoptable	S161	1200	Manhole	Adoptable
16.023	S161	1200	Manhole	Adoptable	S162	1200	Manhole	Adoptable
16.024	S162	1200	Manhole	Adoptable	S163	1200	Manhole	Adoptable
16.025	S163	1200	Manhole	Adoptable	S164	1200	Manhole	Adoptable
16.026	S164	1200	Manhole	Adoptable	S165	1350	Manhole	Adoptable
6.000	S81		Junction		S82HW		Junction	
3.010	S90	2700	Manhole	Adoptable	S98	3000	Manhole	Adoptable
12.001	CP7	1350	Manhole	Adoptable	S112HB	2700	Manhole	Adoptable

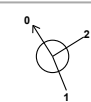
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S10	393266.340	415393.944	178.088	2.829	1800		0	18.000	175.259	375
S11	393248.070	415372.739	178.436	3.342	2100		1	18.000	175.169	375
S168	393430.352	415344.641	169.583	1.824	2100		0	18.001	175.094	450
							1	21.000	168.134	225
							2	16.008	167.759	600
S17	393230.216	415351.972	178.324	3.298	2100		0	16.009	167.759	600
							1	19.000	175.251	225
							2	18.001	175.026	450
S18	393245.069	415342.416	178.549	1.877	1800		0	18.002	175.026	450
							0	19.000	176.672	225
							0	17.000	174.423	225
S20	393269.204	415332.981	178.502	4.079	1200		0	17.000	174.423	225
Cells 1	393532.975	415341.774	164.000	2.506			0	4.000	161.494	225
CP1	393536.009	415342.933	164.000	2.525	1350		1	4.000	161.475	225
S169HW	393407.464	415363.518	168.485	1.750			0	4.001	161.825	225
							1	16.009	167.017	600
S147	393436.964	415339.188	170.224	1.661	1200		0	21.000	168.563	225
S30	393260.847	415293.078	176.422	2.335	1800		0	16.000	174.087	450
S31	393274.030	415308.449	177.400	3.363	1800		1	16.000	174.037	450
S32	393277.590	415315.572	177.793	3.776	2100		0	16.001	174.037	450
							1	16.001	174.017	450
S33	393279.736	415329.619	178.342	4.361	1800		0	16.002	174.017	450
							1	17.000	174.362	225
							2	16.002	173.981	450
S34	393300.229	415327.569	178.002	4.072	1800		0	16.003	173.981	450
							1	16.003	173.930	450
S35	393325.886	415328.207	177.462	4.208	1500		0	16.004	173.930	450
							1	16.004	173.254	450
							0	16.005	173.254	450

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections		Link	IL (m)	Dia (mm)
S37	393352.903	415329.016	176.769	4.226	2100		1	16.005	172.543	450
							0	16.006	172.543	450
S38	393383.487	415329.869	175.476	6.050	2100		1	16.006	171.738	450
							0	16.007	169.426	600
S40	393430.226	415329.515	171.907	3.740	2400		1	16.007	168.167	600
							0	16.008	168.167	600
S43	393469.097	415330.024	168.557	4.191	1350					
							0	1.000	164.366	225
S44	393484.832	415342.098	167.347	7.068	2400		1	1.000	162.754	225
							0	1.001	160.279	1200
S46	393506.110	415356.244	166.203	5.985	3000		1	1.001	160.218	1200
							0	1.002	160.218	1200
S78	393529.104	415365.449	164.819	3.369	1800					
							0	5.000	161.450	450
S120	393349.974	415570.201	162.512	5.348	2400		1	14.000	160.231	225
							2	13.001	157.164	1200
							0	13.002	157.164	1200
S74	393535.154	415288.352	164.412	2.700	1800					
							0	3.000	161.712	450
S75	393559.964	415297.434	163.384	1.813	1800		1	3.000	161.646	450
							0	3.001	161.571	525
S77	393541.050	415344.791	164.131	2.688	2100		1	4.001	162.100	225
							2	3.001	161.443	525
							0	3.002	161.443	525
S79	393536.874	415354.624	164.457	3.041	2100		1	5.000	161.416	450
							2	3.002	161.416	525
							0	3.003	161.416	450
S80HW	393555.376	415367.659	162.434	1.940			1	3.003	160.791	450
S83HW	393563.069	415390.221	162.434	2.000						
							0	3.005	160.434	450
S84	393614.440	415432.114	167.412	1.721	1350					
							0	7.000	165.691	150
S85	393599.960	415426.393	166.410	1.728	1500		1	7.000	164.757	150
							0	7.001	164.682	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S86	393564.343	415415.123	164.018	1.625	1500		1	7.001	162.393	225
S87HB	393555.223	415409.453	163.510	3.131	2700		0	7.002	162.393	225
							1	3.005	160.379	450
							2	7.002	161.472	225
S88HW	393546.315	415423.572	161.810	1.968		0	3.006	160.379	225	
						1	3.006	160.153	225	
S167HW	393543.615	415435.815	161.810	2.000						
S89HB	393536.557	415445.229	161.834	2.041	2400		0	3.008	159.810	450
							1	3.008	159.793	450
S91	393599.350	415510.849	167.387	2.543	1350		0	3.009	159.793	150
										
S92	393573.152	415504.579	166.013	3.342	1500		1	8.000	164.171	225
S94	393542.118	415497.454	163.768	3.399	1500		0	8.001	162.671	225
							1	8.001	161.869	225
S95	393520.682	415492.783	162.618	5.334	2100		0	8.002	160.369	300
							1	8.002	159.684	300
S96	393469.975	415447.741	164.259	1.584	1350		0	8.003	157.284	1200
										
S97	393492.028	415469.161	162.864	1.877	1500		0	9.000	162.675	225
							1	9.000	161.062	225
S98	393509.986	415486.804	162.370	5.117	3000		0	9.001	160.987	300
							1	3.010	157.253	1200
							2	9.001	159.653	300
							3	8.003	157.253	1200
S99	393501.903	415500.896	161.556	4.345	2700		0	3.011	157.253	1200
							1	3.011	157.211	1200
S47	393488.892	415388.556	166.468	6.337	2700		0	3.012	157.211	1200
							1	1.002	160.131	1200
S48	393468.576	415409.555	166.023	5.967	2700		0	1.003	160.131	1200
							1	1.003	160.056	1200
S49	393434.105	415444.271	165.593	5.662	2700		0	1.004	160.056	1200
							1	1.004	159.931	1200
							0	1.005	159.931	1200

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S50	393421.753	415463.724	165.637	5.765	2700		1	1.005	159.872	1200
							0	1.006	159.872	1200
S51	393379.691	415462.389	167.404	7.189	1800		0	2.000	160.215	900
							1	2.000	160.123	900
S57HB	393411.518	415480.721	165.360	5.537	3000		2	1.006	159.823	1200
							0	1.007	159.823	225
S60	393426.167	415489.849	164.378	7.057	2700		1	1.007	158.446	225
							0	1.008	157.321	1200
CP6	393347.632	415574.123	162.630	5.438	1200		1	14.001	157.192	225
							0	14.000	160.000	225
S61	393461.631	415510.553	162.466	5.248	2700		1	1.008	157.218	1200
							0	1.009	157.218	1200
S100	393488.336	415524.649	161.078	3.937	3000		1	3.012	157.141	1200
							2	1.009	157.141	1200
S101	393473.507	415552.792	161.092	4.032	2700		0	1.010	157.141	1200
							1	1.010	157.060	1200
S102	393370.875	415453.856	168.107	6.800	2100		0	1.011	157.060	1200
							0	10.000	161.307	1200
S103	393348.606	415473.417	167.169	5.937	2400		1	10.000	161.232	1200
							0	10.001	161.232	1200
S104	393316.335	415491.011	167.243	6.037	2100		0	11.000	161.206	1200
							1	11.000	161.155	1200
S105	393334.092	415501.148	166.290	5.135	2700		2	10.001	161.155	1200
							0	10.002	161.155	1200
S106HB	393353.234	415512.075	165.247	4.147	2700		1	10.002	161.100	1200
							0	10.003	161.100	150
S107	393393.044	415534.994	163.283	6.078	2700		1	10.003	159.755	150
							0	10.004	157.205	1200
S108	393413.195	415546.710	162.563	5.416	2700		1	10.004	157.147	1200
							0	10.005	157.147	1200
S109	393441.786	415563.943	161.633	4.570	2700		1	10.005	157.063	1200
							0	10.006	157.063	1200

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S146	393230.884	415544.974	170.001	4.151	1200		1	18.019	166.562	225
							0	18.020	165.850	225
S110	393464.976	415576.421	161.112	4.115	3000		1	10.006	156.997	1200
							2	1.011	156.997	1200
							0	1.012	156.997	1200
S112HB	393443.653	415619.524	161.119	4.243	2700		1	12.001	158.400	300
							2	1.012	156.876	1200
							0	1.013	156.876	300
S113HW	393436.612	415633.943	157.799	1.825			1	1.013	156.270	300
S114HW	393371.074	415602.613	157.799	2.000			0	1.015	155.799	450
S166	393135.525	415672.257	145.130	1.425			1	16.027	143.705	225
S116	393308.409	415547.364	165.288	2.607	1200		0	13.000	162.681	225
S117	393337.635	415562.823	163.411	6.211	2400		1	13.000	159.675	225
							0	13.001	157.200	1200
S121	393386.462	415546.077	162.700	5.485	2100		0	15.000	157.215	1200
S122HB	393366.452	415580.054	161.363	4.247	3000		1	15.000	157.116	1200
							2	13.002	157.116	1200
							0	13.003	157.116	225
Cells 6	393346.052	415576.674	162.586	5.377			0	14.001	157.209	225
S115HB	393369.658	415591.334	160.051	4.290	2400		1	1.015	155.761	450
							0	1.016	155.761	450
SW PENSTOCK	393362.342	415587.277	161.700	5.961	1800		1	1.016	155.739	450
							2	13.003	157.067	225
							0	1.017	155.739	450
SWPS	393360.320	415590.676	161.700	6.971	2400		1	1.017	155.729	450
S149HW	393339.196	415425.541	168.485	2.000			0	16.011	166.485	450
S150HB	393334.800	415429.971	168.485	2.172	2400		1	16.011	166.313	450
							0	16.012	166.313	300

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S151HW	393323.844	415443.058	167.500	1.915		 1	16.012	165.885	300
S152HW	393307.454	415473.058	167.500	2.000		 0			
S153HB	393303.946	415479.090	167.500	2.094	2400	 1	16.014	165.500	450
						 0	16.014	165.406	450
S154HW	393296.613	415491.993	166.356	1.856		 1	16.015	165.406	225
						 1	16.015	164.789	225
S155HW	393266.516	415540.793	166.356	2.001		 0			
						 0	16.017	164.355	450
S156HB	393261.054	415545.901	166.356	2.069	1800	 1	16.017	164.287	450
						 0	16.018	164.287	150
S157	393241.403	415539.990	169.306	5.290	1200	 1	16.018	164.016	150
						 0	16.019	164.016	150
S124	393239.605	415449.867	177.670	2.665	1500	 0			
						 0	20.000	175.005	450
S125	393229.455	415440.095	178.081	3.111	1800	 1	20.000	174.970	450
						 0	20.001	174.970	450
S126	393214.553	415423.260	178.495	3.581	1800	 1	20.001	174.914	450
						 0	20.002	174.914	450
S127	393218.194	415362.269	178.098	3.112	1800	 1	18.002	174.986	450
						 0	18.003	174.986	450
S128	393200.943	415377.489	177.783	2.854	1800	 1	18.003	174.929	450
						 0	18.004	174.929	450
S129	393186.150	415390.596	177.579	2.775	1800	 1	20.002	174.804	450
						 2	18.004	174.879	450
						 0	18.005	174.804	525
S130	393143.921	415426.904	177.335	2.670	1800	 1	18.005	174.665	525
						 0	18.006	174.665	525
S131	393158.996	415445.181	177.066	2.460	2100	 1	18.006	174.606	525
						 0	18.007	174.606	525
S132	393170.616	415459.340	177.263	2.703	2100	 1	18.007	174.560	525
						 0	18.008	174.560	525

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S133	393186.261	415476.812	177.202	3.325	1800		1	18.008	173.877	525
							0	18.009	173.877	525
S134	393190.632	415486.786	177.067	3.480	2100		1	18.009	173.587	525
							0	18.010	173.587	525
S135	393152.084	415505.076	174.948	2.577	1800		1	18.010	172.371	525
							0	18.011	172.371	525
S136	393136.379	415512.166	174.084	2.204	1800		1	18.011	171.880	525
							0	18.012	171.880	525
S137	393125.077	415513.763	173.497	1.942	2100		1	18.012	171.555	525
							0	18.013	171.555	525
S139	393117.887	415491.690	173.199	2.006	2100		1	18.013	171.193	525
							0	18.014	171.193	525
S141HW	393099.394	415498.393	172.486	1.920			1	18.014	170.865	525
S142HW	393105.837	415528.823	172.486	2.000			0	18.016	170.486	450
S143HB	393112.069	415533.484	172.467	1.999	2400		1	18.016	170.468	450
							0	18.017	170.468	225
S144	393129.034	415546.117	173.556	3.229	1200		1	18.017	170.327	225
							0	18.018	170.327	225
S145	393189.547	415546.117	171.924	4.112	1200		1	18.018	169.312	225
							0	18.019	167.812	225
S158	393235.583	415548.276	169.417	5.603	1200		1	16.019	163.889	150
							2	18.020	165.314	225
							0	16.020	163.814	225
S159	393215.986	415577.798	165.000	4.143	1200		1	16.020	162.371	225
							0	16.021	160.857	225
S160	393209.862	415587.873	162.000	3.233	1200		1	16.021	160.267	225
							0	16.022	158.767	225
S161	393203.347	415598.111	159.000	2.836	1200		1	16.022	157.664	225
							0	16.023	156.164	225
S162	393183.439	415627.206	155.500	4.041	1200		1	16.023	152.959	225
							0	16.024	151.459	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S163	393169.349	415646.574	151.000	3.218	1200		1	16.024	149.282	225
S164	393142.652	415661.376	147.600	3.817	1200		0	16.025	147.782	225
							1	16.025	145.007	225
S165	393138.489	415667.732	146.410	2.672	1350		0	16.026	143.783	225
							1	16.026	143.738	225
Cells 7	393448.852	415622.557	160.481	3.569	1350		0	12.000	156.912	225
CP7	393446.510	415621.053	161.195	4.299			1	12.000	156.896	225
S81	393574.251	415373.630	162.396	1.045	1350		0	12.001	158.245	300
							1	12.001	158.245	300
S82HW	393571.543	415374.586	162.434	1.940	1350		0	6.000	161.351	150
S90	393533.856	415449.456	161.873	4.518	2700		1	6.000	161.300	150
							0	3.009	159.705	150
							0	3.010	157.355	1200

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Detailed
Rainfall Events	Singular	Skip Steady State	x
FSR Region	England and Wales	Drain Down Time (mins)	1440
M5-60 (mm)	19.200	Additional Storage (m³/ha)	0.0
Ratio-R	0.250	Starting Level (m)	
Summer CV	1.000	Check Discharge Rate(s)	x
Winter CV	1.000	Check Discharge Volume	x

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
100	45	0	0

Node S169HW Online Orifice Control

Flap Valve	x	Invert Level (m)	167.017	Discharge Coefficient	0.600
Replaces Downstream Link	x	Diameter (m)	0.600		

Node S80HW Online Orifice Control

Flap Valve	x	Invert Level (m)	160.791	Discharge Coefficient	0.600
Replaces Downstream Link	x	Diameter (m)	0.450		

Node S89HB Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	159.793	Product Number	CTL-SHE-0105-5500-1400-5500
Design Depth (m)	1.400	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	5.5	Min Node Diameter (mm)	1200

Node S57HB Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	159.823	Product Number	CTL-SHE-0111-1000-4000-1000
Design Depth (m)	4.000	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	10.0	Min Node Diameter (mm)	1200

Node S106HB Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	161.100	Product Number	CTL-SHE-0100-7000-2900-7000
Design Depth (m)	2.900	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	7.0	Min Node Diameter (mm)	1200

Node CP1 Offline Orifice Control

Flap Valve	✓	Invert Level (m)	161.475	Discharge Coefficient	0.600
Loop to Node	S77	Diameter (m)	0.225		

Node S112HB Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	156.877	Product Number	CTL-SHE-0224-3500-3000-3500
Design Depth (m)	3.000	Min Outlet Diameter (m)	0.300
Design Flow (l/s)	35.0	Min Node Diameter (mm)	2700

Node S151HW Online Orifice Control

Flap Valve	x	Invert Level (m)	165.885	Discharge Coefficient	0.600
Replaces Downstream Link	x	Diameter (m)	0.300		

Node S122HB Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	157.116	Product Number	CTL-SHE-0102-5500-1600-5500
Design Depth (m)	1.600	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	5.5	Min Node Diameter (mm)	1200

Node S150HB Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	166.313	Product Number	CTL-SHE-0192-2160-1900-2160
Design Depth (m)	1.900	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	21.6	Min Node Diameter (mm)	2100

Node S153HB Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	165.406	Product Number	CTL-SHE-0184-1730-1200-1730
Design Depth (m)	1.200	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	17.3	Min Node Diameter (mm)	1500

Node S156HB Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	164.287	Product Number	CTL-SHE-0128-8500-1500-8500
Design Depth (m)	1.500	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	8.5	Min Node Diameter (mm)	1500

Node S143HB Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	170.468	Product Number	CTL-SHE-0100-5000-1400-5000
Design Depth (m)	1.400	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	5.0	Min Node Diameter (mm)	1200

Node SWPS Offline Pump Control

Flap Valve	x	Design Depth (m)	3.000	Switch off depth (m)	0.000
Loop to Node	S147	Design Flow (l/s)	24.0		
Invert Level (m)	154.730	Switch on depth (m)	0.250		

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.250	24.000	6.000	24.000

Node S87HB Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	160.379	Product Number	CTL-SHE-0138-9900-1500-9900
Design Depth (m)	1.500	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	9.9	Min Node Diameter (mm)	1500

Node S154HW Online Orifice Control

Flap Valve	x	Invert Level (m)	164.789	Discharge Coefficient	0.600
Replaces Downstream Link	x	Diameter (m)	0.225		

Node CP6 Offline Orifice Control

Flap Valve	✓	Invert Level (m)	157.192	Discharge Coefficient	0.600
Loop to Node	S120	Diameter (m)	0.225		

Node CP7 Offline Orifice Control

Flap Valve	✓	Invert Level (m)	156.896	Discharge Coefficient	0.600
Loop to Node	S112HB	Diameter (m)	0.225		

Node S115HB Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Downstream Link	1.016	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0182-1750-1400-1750
Invert Level (m)	155.761	Min Outlet Diameter (m)	0.225
Design Depth (m)	1.400	Min Node Diameter (mm)	1500
Design Flow (l/s)	17.5		

Node S114HW Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	70.000
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	155.799	Main Channel Slope (1:X)	400.0
Safety Factor	2.0	Time to half empty (mins)		Main Channel n	0.035

Inlets
S113HW

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	607.6	607.6	2.001	1682.9	1707.8

Node S83HW Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	24.000
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	160.434	Main Channel Slope (1:X)	400.0
Safety Factor	2.0	Time to half empty (mins)		Main Channel n	0.035

Inlets

S80HW | S82HW

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	190.8	190.8	2.001	691.2	711.0

Node S167HW Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	13.000
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	159.810	Main Channel Slope (1:X)	400.0
Safety Factor	2.0	Time to half empty (mins)		Main Channel n	0.035

Inlets

S88HW

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	223.0	223.0	2.001	695.2	717.4

Node S142HW Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	32.000
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	170.486	Main Channel Slope (1:X)	400.0
Safety Factor	2.0	Time to half empty (mins)		Main Channel n	0.035

Inlets

S141HW

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	1001.3	1001.3	2.001	1876.0	1915.5

Node S149HW Pond Storage Structure

Invert Level (m)	166.485	Analyse flow through structure	✓	Main Channel Slope (1:X)	400.0
Time to half empty (mins)		Main Channel Length (m)	100.000	Main Channel n	0.035

Inlets

S169HW

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	1157.8	2.001	2546.6

Node S152HW Pond Storage Structure

Invert Level (m)	165.500	Analyse flow through structure	✓	Main Channel Slope (1:X)	400.0
Time to half empty (mins)		Main Channel Length (m)	34.000	Main Channel n	0.035

Inlets

S151HW

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	141.0	2.001	706.5

Node S155HW Pond Storage Structure

Invert Level (m)	164.355	Analyse flow through structure	✓	Main Channel Slope (1:X)	400.0
Time to half empty (mins)		Main Channel Length (m)	58.000	Main Channel n	0.035

Inlets

S154HW

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	621.2	2.001	1474.3

Node Cells 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	161.494
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	780

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	120.0	0.0	0.800	120.0	0.0	0.801	0.0	0.0

Node Cells 6 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	157.209
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	384

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	98.0	0.0	2.000	98.0	0.0	2.001	0.0	0.0

Node Cells 7 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	156.912
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	525

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	320.0	0.0	2.000	320.0	0.0	2.001	0.0	0.0

Other (defaults)

Entry Loss (manhole)	0.250	Entry Loss (junction)	0.000	Apply Recommended Losses	x
Exit Loss (manhole)	0.250	Exit Loss (junction)	0.000	Flood Risk (m)	0.300

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.96%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S10	10	175.388	0.129	27.6	0.3281	0.0000	OK
15 minute summer	S11	11	175.269	0.175	36.9	0.6068	0.0000	OK
15 minute summer	S168	11	167.915	0.155	167.6	0.5386	0.0000	OK
15 minute summer	S17	11	175.253	0.227	61.5	0.7877	0.0000	OK
15 minute summer	S18	10	176.728	0.056	18.7	0.1415	0.0000	OK
15 minute summer	S20	10	174.468	0.045	3.3	0.0514	0.0000	OK
15 minute summer	Cells 1	1	161.494	0.000	0.0	0.0000	0.0000	OK
15 minute summer	CP1	1	161.475	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S169HW	11	167.344	0.609	167.0	0.0000	0.0000	OK
240 minute winter	S147	312	168.636	0.073	22.7	0.0829	0.0000	OK
15 minute summer	S30	10	174.285	0.198	52.0	0.5026	0.0000	OK
15 minute summer	S31	11	174.251	0.214	54.8	0.5439	0.0000	OK
15 minute summer	S32	11	174.225	0.208	60.3	0.7188	0.0000	OK
15 minute summer	S33	11	174.174	0.193	68.3	0.4900	0.0000	OK
15 minute summer	S34	11	174.057	0.127	84.4	0.3234	0.0000	OK
15 minute summer	S35	11	173.382	0.127	89.6	0.2252	0.0000	OK
15 minute summer	S37	11	172.698	0.155	120.7	0.5359	0.0000	OK
15 minute summer	S38	11	169.561	0.135	157.9	0.4665	0.0000	OK
15 minute summer	S40	11	168.339	0.172	163.1	0.7778	0.0000	OK
15 minute summer	S43	10	164.395	0.029	5.5	0.0416	0.0000	OK
360 minute summer	S44	248	160.478	0.198	6.0	0.8979	0.0000	OK
360 minute summer	S46	248	160.478	0.260	9.9	1.8349	0.0000	OK
15 minute summer	S78	11	161.543	0.093	12.5	0.2360	0.0000	OK
360 minute summer	S120	248	157.894	0.730	13.8	3.3045	0.0000	OK
15 minute summer	S74	10	161.822	0.110	20.6	0.2800	0.0000	OK
15 minute summer	S75	11	161.716	0.145	41.3	0.3700	0.0000	OK
15 minute summer	S77	11	161.615	0.172	65.3	0.5947	0.0000	OK
15 minute summer	S79	11	161.531	0.115	79.2	0.3980	0.0000	OK
960 minute summer	S80HW	645	161.063	0.569	13.2	0.0000	0.0000	OK
960 minute summer	S83HW	645	161.062	0.628	10.2	0.0000	0.0000	SURCHARGED
15 minute summer	S84	10	165.749	0.058	13.0	0.0833	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S10	18.000	S11	27.0	0.861	0.239	0.8801	0.0
15 minute summer	S11	18.001	S17	36.0	0.550	0.225	1.8810	
15 minute summer	S168	16.009	S169HW	167.0	1.580	0.153	3.1859	
15 minute summer	S17	18.002	S127	60.0	0.732	0.372	1.3138	
15 minute summer	S18	19.000	S17	18.6	2.504	0.125	0.1310	
15 minute summer	S20	17.000	S33	3.2	0.580	0.084	0.0614	
15 minute summer	Cells 1	4.000	CP1	0.0	0.000	0.000	0.0000	
15 minute summer	CP1	4.001	S77	0.0	0.000	0.000	0.0000	
15 minute summer	CP1	Orifice	S77	0.0				
15 minute summer	S169HW	Pond	S149HW	137.6	0.209	0.003		
240 minute winter	S147	21.000	S168	22.7	2.157	0.194	0.0904	0.0
15 minute summer	S30	16.000	S31	50.9	0.737	0.319	1.4251	
15 minute summer	S31	16.001	S32	54.3	0.747	0.337	0.5796	
15 minute summer	S32	16.002	S33	60.7	0.891	0.375	0.9670	
15 minute summer	S33	16.003	S34	68.6	1.361	0.429	1.0444	
15 minute summer	S34	16.004	S35	84.4	2.294	0.160	0.9438	
15 minute summer	S35	16.005	S37	89.4	2.106	0.170	1.1496	
15 minute summer	S37	16.006	S38	120.5	2.620	0.229	1.4074	
15 minute summer	S38	16.007	S40	157.9	2.785	0.111	1.6841	
15 minute summer	S40	16.008	S168	162.9	2.619	0.144	0.9411	
15 minute summer	S43	1.000	S44	5.4	1.842	0.034	0.0524	
360 minute summer	S44	1.001	S46	5.9	0.342	0.003	3.6602	
360 minute summer	S46	1.002	S47	8.3	0.411	0.004	7.7665	
15 minute summer	S78	5.000	S79	12.1	0.475	0.075	0.3689	
360 minute summer	S120	13.002	S122HB	9.2	0.170	0.004	14.3224	
15 minute summer	S74	3.000	S75	20.2	0.740	0.126	0.7201	
15 minute summer	S75	3.001	S77	41.2	0.751	0.171	2.8065	
15 minute summer	S77	3.002	S79	65.6	1.376	0.271	0.5135	
15 minute summer	S79	3.003	S80HW	79.1	1.359	0.147	1.3413	
960 minute summer	S80HW	Flow through Pond	S83HW	10.2	0.030	0.000	159.2112	
960 minute summer	S83HW	3.005	S87HB	9.7	0.293	0.059	3.2909	
15 minute summer	S84	7.000	S85	12.9	2.102	0.294	0.0955	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.96%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S85	10	164.740	0.058	19.1	0.1025	0.0000	OK
15 minute summer	S86	10	162.471	0.078	34.3	0.1375	0.0000	OK
960 minute summer	S87HB	645	161.062	0.683	10.3	3.9119	0.0000	SURCHARGED
1440 minute winter	S88HW	2880	160.816	0.973	9.9	0.0000	0.0000	OK
1440 minute winter	S167HW	2880	160.816	1.006	8.0	0.0000	0.0000	SURCHARGED
1440 minute winter	S89HB	2880	160.816	1.023	5.6	4.6296	0.0000	SURCHARGED
15 minute summer	S91	10	164.952	0.108	35.7	0.1540	0.0000	OK
15 minute summer	S92	10	162.800	0.129	48.2	0.2273	0.0000	OK
15 minute summer	S94	10	160.496	0.127	65.9	0.2241	0.0000	OK
360 minute summer	S95	240	157.676	0.392	23.3	1.3590	0.0000	OK
15 minute summer	S96	10	162.735	0.060	18.0	0.0857	0.0000	OK
15 minute summer	S97	10	161.071	0.084	41.7	0.1488	0.0000	OK
360 minute summer	S98	240	157.676	0.423	35.7	2.9924	0.0000	OK
360 minute summer	S99	240	157.676	0.465	32.1	2.6641	0.0000	OK
360 minute summer	S47	248	160.477	0.346	9.2	1.9836	0.0000	OK
360 minute summer	S48	248	160.477	0.421	12.8	2.4124	0.0000	OK
360 minute summer	S49	248	160.477	0.546	13.4	3.1267	0.0000	OK
360 minute summer	S50	248	160.477	0.605	10.1	3.4634	0.0000	OK
360 minute summer	S51	248	160.477	0.262	2.9	0.6671	0.0000	OK
360 minute summer	S57HB	248	160.477	0.654	10.2	4.6224	0.0000	SURCHARGED
360 minute summer	S60	240	157.676	0.355	8.0	2.0347	0.0000	OK
15 minute summer	CP6	1	157.192	0.000	0.0	0.0000	0.0000	OK
360 minute summer	S61	240	157.676	0.458	14.3	2.6240	0.0000	OK
360 minute summer	S100	240	157.676	0.535	38.3	3.7834	0.0000	OK
360 minute summer	S101	240	157.676	0.616	36.4	3.5279	0.0000	OK
180 minute summer	S102	124	161.496	0.189	5.5	0.6535	0.0000	OK
180 minute summer	S103	124	161.495	0.263	8.5	1.1917	0.0000	OK
180 minute summer	S104	120	161.495	0.289	4.7	1.0004	0.0000	OK
180 minute summer	S105	124	161.495	0.340	8.1	1.9456	0.0000	OK
180 minute summer	S106HB	120	161.495	0.395	7.6	2.2604	0.0000	SURCHARGED
360 minute summer	S107	240	157.676	0.471	18.2	2.6992	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S85	7.001	S86	19.0	1.881	0.147	0.3784	0.0
15 minute summer	S86	7.002	S87HB	34.0	2.950	0.222	0.1237	
960 minute summer	S87HB	3.006	S88HW	9.9	1.120	0.163	0.6639	
1440 minute winter	S88HW	Flow through Pond	S167HW	7.5	0.020	0.000	336.7112	
1440 minute winter	S167HW	3.008	S89HB	5.6	0.280	0.035	1.0964	
1440 minute winter	S89HB	3.009	S90	5.5	0.922	0.277	0.0422	
15 minute summer	S91	8.000	S92	35.3	1.946	0.428	0.4884	
15 minute summer	S92	8.001	S94	47.6	2.102	0.577	0.7272	
15 minute summer	S94	8.002	S95	65.3	2.432	0.330	0.5853	
360 minute summer	S95	8.003	S98	22.0	0.388	0.010	4.1795	
15 minute summer	S96	9.000	S97	17.8	2.143	0.149	0.2555	
15 minute summer	S97	9.001	S98	41.4	2.637	0.160	0.3910	
360 minute summer	S98	3.011	S99	30.1	0.596	0.014	6.4056	
360 minute summer	S99	3.012	S100	28.1	0.510	0.013	12.4133	
360 minute summer	S47	1.003	S48	6.0	0.329	0.003	9.4097	
360 minute summer	S48	1.004	S49	8.4	0.316	0.004	21.2408	
360 minute summer	S49	1.005	S50	8.4	0.297	0.004	12.6242	
360 minute summer	S50	1.006	S57HB	6.6	0.156	0.003	11.7164	
360 minute summer	S51	2.000	S57HB	2.0	0.438	0.002	6.7674	
360 minute summer	S57HB	1.007	S60	6.6	1.807	0.046	0.0681	
360 minute summer	S60	1.008	S61	7.6	0.439	0.004	13.8603	
15 minute summer	CP6	14.000	S120	0.0	0.000	0.000	0.0000	
15 minute summer	CP6	Orifice	S120	0.0				
360 minute summer	S61	1.009	S100	10.9	0.353	0.005	13.6422	
360 minute summer	S100	1.010	S101	30.9	0.557	0.015	16.9236	
360 minute summer	S101	1.011	S110	31.3	0.514	0.015	15.5812	
180 minute summer	S102	10.000	S103	4.5	0.268	0.002	4.3837	
180 minute summer	S103	10.001	S105	5.5	0.242	0.003	6.8706	
180 minute summer	S104	11.000	S105	2.9	0.194	0.001	4.7369	
180 minute summer	S105	10.002	S106HB	4.2	0.122	0.002	6.4574	
180 minute summer	S106HB	10.003	S107	5.0	1.272	0.165	0.1816	
360 minute summer	S107	10.004	S108	15.2	0.435	0.007	10.3700	

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	S108	10.005	S109	12.0	0.349	0.006	17.6647	602.5
360 minute summer	S109	10.006	S110	11.4	0.270	0.005	16.2868	
30 minute summer	S146	18.020	S158	13.7	2.336	0.086	0.0338	
360 minute summer	S110	1.012	S112HB	34.2	0.242	0.016	35.0038	
360 minute summer	S112HB	1.013	S113HW	34.8	2.179	0.166	0.4274	
1440 minute summer	S113HW	Flow through Pond	S114HW	26.1	0.040	0.001	570.9169	
1440 minute summer	S114HW	1.015	S115HB	17.5	0.172	0.110	2.4384	
15 minute summer	S116	13.000	S117	22.4	2.789	0.142	0.2655	
360 minute summer	S117	13.001	S120	13.8	0.278	0.007	10.0223	
360 minute summer	S121	15.000	S122HB	-1.7	0.050	-0.001	28.2305	
360 minute summer	S122HB	13.003	SW PENSTOCK	5.3	0.679	0.134	0.0651	
15 minute summer	Cells 6	14.001	CP6	0.0	0.000	0.000	0.0000	
1440 minute summer	S115HB	1.016	SW PENSTOCK	17.4	0.620	0.106	0.2690	
240 minute winter	SW PENSTOCK	1.017	SWPS	22.7	0.758	0.141	0.1189	
15 minute winter	SWPS	Pump	S147	19.9				
1440 minute winter	S149HW	16.011	S150HB	96.5	0.911	0.191	1.1219	
1440 minute winter	S150HB	16.012	S151HW	21.6	1.064	0.119	1.1426	
1440 minute winter	S151HW	Pond	S152HW	-132.2	0.057	-0.005		
1440 minute winter	S152HW	16.014	S153HB	80.2	0.791	0.220	1.1709	
1440 minute winter	S153HB	16.015	S154HW	17.7	1.061	0.171	0.6232	
1440 minute winter	S154HW	Pond	S155HW	13.3	0.033	0.000		
1440 minute winter	S155HW	16.017	S156HB	34.3	0.352	0.109	1.1421	
1440 minute winter	S156HB	16.018	S157	8.5	1.036	0.429	0.1799	
1440 minute winter	S157	16.019	S158	8.5	1.044	0.428	0.0827	
15 minute summer	S124	20.000	S125	14.2	0.520	0.089	0.6726	
15 minute summer	S125	20.001	S126	16.5	0.472	0.103	1.4873	
15 minute summer	S126	20.002	S129	35.7	0.481	0.222	4.3467	
15 minute summer	S127	18.003	S128	68.1	0.756	0.425	2.0729	
15 minute summer	S128	18.004	S129	90.1	1.004	0.560	1.8178	

	Betts Associates Ltd Old Marsh Farm Barns Flintshire	File: BLH36 - Littleborough.pfd Network: William Murphy 04/06/2026	Page 29 Land off Hollingworth Road Littleborough					
Results for 2 year Critical Storm Duration. Lowest mass balance: 99.96%								
Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S129	12	175.124	0.320	150.3	0.8138	0.0000	OK
15 minute summer	S130	12	175.009	0.343	168.0	0.8741	0.0000	OK
15 minute summer	S131	12	174.910	0.304	188.1	1.0527	0.0000	OK
15 minute summer	S132	12	174.750	0.190	204.5	0.6593	0.0000	OK
15 minute summer	S133	12	174.092	0.215	204.9	0.5476	0.0000	OK
15 minute summer	S134	12	173.779	0.192	223.9	0.6654	0.0000	OK
15 minute summer	S135	12	172.585	0.214	230.5	0.5438	0.0000	OK
15 minute summer	S136	12	172.110	0.230	233.0	0.5863	0.0000	OK
15 minute summer	S137	12	171.811	0.256	239.1	0.8864	0.0000	OK
15 minute summer	S139	12	171.439	0.246	254.1	0.8521	0.0000	OK
1440 minute summer	S141HW	1110	171.037	0.471	37.9	0.0000	0.0000	OK
1440 minute summer	S142HW	1110	171.037	0.551	21.6	0.0000	0.0000	SURCHARGED
1440 minute summer	S143HB	1110	171.037	0.569	5.1	2.5752	0.0000	SURCHARGED
30 minute summer	S144	19	170.397	0.070	14.1	0.0789	0.0000	OK
30 minute summer	S145	19	167.872	0.060	13.8	0.0679	0.0000	OK
480 minute summer	S158	248	163.874	0.060	15.6	0.0673	0.0000	OK
480 minute summer	S159	248	160.916	0.058	15.7	0.0661	0.0000	OK
480 minute summer	S160	248	158.817	0.050	15.7	0.0564	0.0000	OK
480 minute summer	S161	248	156.213	0.048	15.6	0.0548	0.0000	OK
480 minute summer	S162	248	151.508	0.049	15.6	0.0552	0.0000	OK
480 minute summer	S163	248	147.831	0.049	15.6	0.0549	0.0000	OK
480 minute summer	S164	248	143.891	0.108	15.6	0.1217	0.0000	OK
480 minute summer	S165	248	143.840	0.101	15.6	0.1452	0.0000	OK
15 minute summer	Cells 7	1	156.912	0.000	0.0	0.0000	0.0000	OK
15 minute summer	CP7	1	156.896	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S81	1	161.407	0.056	5.0	0.0000	0.0000	OK
960 minute summer	S82HW	645	161.066	0.572	5.0	0.0000	0.0000	OK
360 minute summer	S90	240	157.676	0.321	5.5	1.8405	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S129	18.005	S130	148.8	1.040	0.618	8.0010	
15 minute summer	S130	18.006	S131	168.4	1.218	0.698	3.2891	
15 minute summer	S131	18.007	S132	188.4	1.891	0.785	1.8566	
15 minute summer	S132	18.008	S133	204.9	2.666	0.250	1.8446	
15 minute summer	S133	18.009	S134	205.1	2.660	0.250	0.7862	
15 minute summer	S134	18.010	S135	224.6	2.919	0.274	3.2843	
15 minute summer	S135	18.011	S136	231.0	2.662	0.282	1.4957	
15 minute summer	S136	18.012	S137	233.0	2.384	0.284	1.1160	
15 minute summer	S137	18.013	S139	239.0	2.353	0.394	2.3643	
15 minute summer	S139	18.014	S141HW	253.4	2.684	0.404	1.8568	
1440 minute summer	S141HW	Flow through Pond	S142HW	21.6	0.033	0.000	569.9071	
1440 minute summer	S142HW	18.016	S143HB	5.1	0.117	0.029	0.9599	
1440 minute summer	S143HB	18.017	S144	5.0	0.809	0.118	0.1411	
30 minute summer	S144	18.018	S145	13.8	1.337	0.205	0.6269	
30 minute summer	S145	18.019	S146	13.8	1.642	0.152	0.3467	
480 minute summer	S158	16.020	S159	15.7	1.893	0.149	0.2932	
480 minute summer	S159	16.021	S160	15.7	1.987	0.134	0.0929	
480 minute summer	S160	16.022	S161	15.6	2.474	0.099	0.0768	
480 minute summer	S161	16.023	S162	15.6	2.524	0.099	0.2183	
480 minute summer	S162	16.024	S163	15.6	2.511	0.099	0.1491	
480 minute summer	S163	16.025	S164	15.6	2.520	0.099	0.1893	
480 minute summer	S164	16.026	S165	15.6	0.866	0.392	0.1372	
480 minute summer	S165	16.027	S166	15.6	0.932	0.386	0.0907	1351.8
15 minute summer	Cells 7	12.000	CP7	0.0	0.000	0.000	0.0000	
15 minute summer	CP7	12.001	S112HB	0.0	0.000	0.000	0.0000	
15 minute summer	CP7	Orifice	S112HB	0.0				0.0
15 minute summer	S81	6.000	S82HW	5.0	0.835	0.298	0.0342	
960 minute summer	S82HW	Flow through Pond	S83HW	10.2	0.030	0.000	159.2112	
360 minute summer	S90	3.010	S98	6.5	0.417	0.003	12.1358	
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Results for 30 year Critical Storm Duration. Lowest mass balance: 99.93%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	S10	20	175.511	0.252	50.2	0.6410	0.0000	OK
30 minute summer	S11	20	175.493	0.399	67.7	1.3815	0.0000	OK
15 minute summer	S168	11	167.987	0.228	315.5	0.7884	0.0000	OK
30 minute summer	S17	20	175.477	0.451	105.9	1.5623	0.0000	SURCHARGED
15 minute summer	S18	9	176.748	0.076	35.3	0.1925	0.0000	OK
15 minute summer	S20	10	174.486	0.063	6.2	0.0716	0.0000	OK
15 minute summer	Cells 1	1	161.494	0.000	0.0	0.0000	0.0000	OK
15 minute summer	CP1	1	161.475	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S169HW	11	167.519	0.784	315.7	0.0000	0.0000	OK
600 minute winter	S147	375	168.639	0.076	24.0	0.0854	0.0000	OK
15 minute summer	S30	10	174.392	0.305	98.0	0.7753	0.0000	OK
15 minute summer	S31	11	174.354	0.317	103.5	0.8064	0.0000	OK
15 minute summer	S32	11	174.319	0.302	113.5	1.0475	0.0000	OK
15 minute summer	S33	11	174.252	0.271	128.7	0.6907	0.0000	OK
15 minute summer	S34	11	174.112	0.182	159.4	0.4628	0.0000	OK
15 minute summer	S35	11	173.438	0.184	169.8	0.3250	0.0000	OK
15 minute summer	S37	11	172.769	0.226	229.0	0.7840	0.0000	OK
15 minute summer	S38	11	169.617	0.191	299.9	0.6620	0.0000	OK
15 minute summer	S40	11	168.419	0.252	310.1	1.1387	0.0000	OK
15 minute summer	S43	10	164.406	0.040	10.4	0.0571	0.0000	OK
360 minute winter	S44	344	160.933	0.654	6.8	2.9584	0.0000	OK
360 minute winter	S46	344	160.933	0.715	9.5	5.0530	0.0000	OK
15 minute summer	S78	11	161.590	0.140	23.6	0.3564	0.0000	OK
360 minute winter	S120	272	160.241	3.077	15.5	13.9182	0.0000	SURCHARGED
15 minute summer	S74	10	161.867	0.155	38.9	0.3933	0.0000	OK
15 minute summer	S75	11	161.782	0.210	78.7	0.5357	0.0000	OK
15 minute summer	S77	11	161.682	0.239	123.7	0.8263	0.0000	OK
15 minute summer	S79	11	161.579	0.163	149.9	0.5634	0.0000	OK
960 minute winter	S80HW	915	161.533	1.039	14.5	0.0000	0.0000	OK
960 minute winter	S83HW	915	161.533	1.099	10.1	0.0000	0.0000	SURCHARGED
15 minute summer	S84	10	165.777	0.085	24.6	0.1223	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	S10	18.000	S11	49.3	0.934	0.437	2.5175	
30 minute summer	S11	18.001	S17	60.7	0.540	0.379	4.2024	
15 minute summer	S168	16.009	S169HW	315.7	1.761	0.289	5.1876	
30 minute summer	S17	18.002	S127	100.6	0.755	0.623	2.5072	
15 minute summer	S18	19.000	S17	35.1	2.910	0.237	0.4317	
15 minute summer	S20	17.000	S33	6.1	0.692	0.159	0.0975	
15 minute summer	Cells 1	4.000	CP1	0.0	0.000	0.000	0.0000	
15 minute summer	CP1	4.001	S77	0.0	0.000	0.000	0.0000	
15 minute summer	CP1	Orifice	S77	0.0				0.0
15 minute summer	S169HW	Pond	S149HW	303.2	0.277	0.007		
600 minute winter	S147	21.000	S168	24.0	2.186	0.205	0.0941	
15 minute summer	S30	16.000	S31	96.2	0.834	0.603	2.3618	
15 minute summer	S31	16.001	S32	102.2	0.881	0.635	0.9260	
15 minute summer	S32	16.002	S33	114.2	1.071	0.706	1.5146	
15 minute summer	S33	16.003	S34	129.6	1.621	0.811	1.6465	
15 minute summer	S34	16.004	S35	159.9	2.646	0.304	1.5511	
15 minute summer	S35	16.005	S37	169.9	2.416	0.323	1.9017	
15 minute summer	S37	16.006	S38	229.2	3.062	0.436	2.2909	
15 minute summer	S38	16.007	S40	300.2	3.181	0.211	2.8015	
15 minute summer	S40	16.008	S168	310.5	2.958	0.274	1.5886	
15 minute summer	S43	1.000	S44	10.3	2.218	0.065	0.0825	
360 minute winter	S44	1.001	S46	5.0	0.318	0.002	16.1594	
360 minute winter	S46	1.002	S47	6.5	0.392	0.003	25.9945	
15 minute summer	S78	5.000	S79	22.7	0.534	0.140	0.6238	
360 minute winter	S120	13.002	S122HB	9.9	0.209	0.005	21.6317	
15 minute summer	S74	3.000	S75	38.3	0.872	0.239	1.1609	
15 minute summer	S75	3.001	S77	77.8	0.884	0.322	4.4989	
15 minute summer	S77	3.002	S79	124.2	1.639	0.512	0.8132	
15 minute summer	S79	3.003	S80HW	150.2	1.534	0.279	2.1665	
960 minute winter	S80HW	Flow through Pond	S83HW	10.1	0.030	0.000	346.9767	
960 minute winter	S83HW	3.005	S87HB	9.8	0.293	0.059	3.2909	
15 minute summer	S84	7.000	S85	24.4	2.451	0.558	0.1551	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.93%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S85	10	164.763	0.081	36.1	0.1426	0.0000	OK
15 minute summer	S86	10	162.507	0.114	64.8	0.2021	0.0000	OK
960 minute winter	S87HB	915	161.532	1.153	10.2	6.6043	0.0000	SURCHARGED
1440 minute winter	S88HW	2040	161.065	1.223	9.9	0.0000	0.0000	OK
1440 minute winter	S167HW	2040	161.066	1.256	8.1	0.0000	0.0000	SURCHARGED
1440 minute winter	S89HB	2040	161.066	1.273	5.6	5.7570	0.0000	SURCHARGED
15 minute summer	S91	10	165.010	0.166	67.2	0.2371	0.0000	OK
15 minute summer	S92	11	163.147	0.475	90.9	0.8401	0.0000	SURCHARGED
15 minute summer	S94	11	160.557	0.188	121.5	0.3323	0.0000	OK
480 minute summer	S95	352	158.336	1.052	33.4	3.6440	0.0000	OK
15 minute summer	S96	10	162.759	0.084	34.0	0.1205	0.0000	OK
15 minute summer	S97	10	161.107	0.120	78.7	0.2117	0.0000	OK
480 minute summer	S98	352	158.336	1.083	49.2	7.6553	0.0000	OK
480 minute summer	S99	352	158.336	1.125	42.0	6.4413	0.0000	OK
360 minute winter	S47	344	160.933	0.802	7.2	4.5898	0.0000	OK
360 minute winter	S48	344	160.932	0.876	11.5	5.0175	0.0000	OK
360 minute winter	S49	344	160.932	1.001	12.8	5.7312	0.0000	OK
360 minute winter	S50	344	160.932	1.060	9.4	6.0690	0.0000	OK
360 minute winter	S51	344	160.932	0.717	3.3	1.8259	0.0000	OK
360 minute winter	S57HB	344	160.932	1.109	10.6	7.8393	0.0000	SURCHARGED
480 minute summer	S60	360	158.336	1.015	8.4	5.8107	0.0000	OK
360 minute winter	CP6	272	157.229	0.037	0.4	0.0417	0.0000	OK
480 minute summer	S61	352	158.336	1.118	16.5	6.4005	0.0000	OK
480 minute summer	S100	352	158.336	1.195	43.5	8.4464	0.0000	OK
480 minute summer	S101	352	158.336	1.276	39.0	7.3053	0.0000	SURCHARGED
240 minute summer	S102	180	161.785	0.478	8.7	1.6541	0.0000	OK
240 minute summer	S103	180	161.785	0.553	12.7	2.5003	0.0000	OK
240 minute summer	S104	176	161.784	0.578	7.4	2.0035	0.0000	OK
240 minute summer	S105	180	161.784	0.629	9.6	3.6040	0.0000	OK
240 minute summer	S106HB	176	161.784	0.684	9.2	3.9188	0.0000	SURCHARGED
480 minute summer	S107	360	158.336	1.131	24.2	6.4752	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S85	7.001	S86	35.9	2.180	0.278	0.6171	0.2
15 minute summer	S86	7.002	S87HB	64.3	3.427	0.420	0.2016	
960 minute winter	S87HB	3.006	S88HW	9.9	1.120	0.163	0.6639	
1440 minute winter	S88HW	Flow through Pond	S167HW	7.4	0.020	0.000	457.8732	
1440 minute winter	S167HW	3.008	S89HB	5.6	0.280	0.035	1.0964	
1440 minute winter	S89HB	3.009	S90	5.5	0.922	0.277	0.0422	
15 minute summer	S91	8.000	S92	66.5	2.222	0.807	0.8060	
15 minute summer	S92	8.001	S94	88.6	2.280	1.073	1.2752	
15 minute summer	S94	8.002	S95	121.6	2.791	0.614	0.9457	
480 minute summer	S95	8.003	S98	31.2	0.359	0.015	13.1163	
15 minute summer	S96	9.000	S97	33.7	2.547	0.281	0.4065	
15 minute summer	S97	9.001	S98	78.3	3.113	0.303	0.6262	
480 minute summer	S98	3.011	S99	39.2	0.574	0.019	18.3102	
480 minute summer	S99	3.012	S100	35.5	0.474	0.017	31.0228	
360 minute winter	S47	1.003	S48	5.1	0.303	0.002	25.4494	
360 minute winter	S48	1.004	S49	7.2	0.336	0.003	47.0492	
360 minute winter	S49	1.005	S50	7.4	0.344	0.004	24.3244	
360 minute winter	S50	1.006	S57HB	6.1	0.145	0.003	20.9642	
360 minute winter	S51	2.000	S57HB	2.0	0.428	0.002	20.1023	
360 minute winter	S57HB	1.007	S60	6.6	1.807	0.046	0.0681	
480 minute summer	S60	1.008	S61	7.5	0.441	0.004	43.3741	
360 minute winter	CP6	14.000	S120	-0.4	-0.669	-0.994	0.0025	
360 minute winter	CP6	Orifice	S120	0.1				
480 minute summer	S61	1.009	S100	9.7	0.355	0.005	34.3438	
480 minute summer	S100	1.010	S101	31.3	0.543	0.015	35.6637	
480 minute summer	S101	1.011	S110	31.4	0.519	0.015	28.3052	
240 minute summer	S102	10.000	S103	5.4	0.226	0.003	13.7041	
240 minute summer	S103	10.001	S105	5.4	0.278	0.003	17.0784	
240 minute summer	S104	11.000	S105	4.4	0.250	0.002	11.4442	
240 minute summer	S105	10.002	S106HB	4.5	0.141	0.002	13.9468	
240 minute summer	S106HB	10.003	S107	5.1	1.275	0.166	0.1827	
480 minute summer	S107	10.004	S108	20.1	0.412	0.010	25.9481	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.93%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S129	12	175.367	0.563	254.8	1.4337	0.0000	SURCHARGED
30 minute summer	S130	19	175.183	0.518	293.1	1.3179	0.0000	OK
30 minute summer	S131	19	175.038	0.432	333.0	1.4948	0.0000	OK
30 minute summer	S132	19	174.835	0.275	366.8	0.9510	0.0000	OK
30 minute summer	S133	19	174.193	0.316	367.4	0.8052	0.0000	OK
30 minute summer	S134	19	173.861	0.274	406.8	0.9485	0.0000	OK
30 minute summer	S135	19	172.692	0.321	419.3	0.8164	0.0000	OK
30 minute summer	S136	19	172.238	0.358	422.2	0.9108	0.0000	OK
30 minute summer	S137	19	171.945	0.390	433.9	1.3503	0.0000	OK
30 minute summer	S139	19	171.557	0.364	464.0	1.2599	0.0000	OK
1440 minute winter	S141HW	1410	171.438	0.871	41.4	0.0000	0.0000	OK
1440 minute winter	S142HW	1410	171.438	0.952	23.3	0.0000	0.0000	SURCHARGED
1440 minute winter	S143HB	1410	171.438	0.970	5.1	4.3861	0.0000	SURCHARGED
30 minute summer	S144	18	170.429	0.102	28.3	0.1153	0.0000	OK
30 minute summer	S145	19	167.899	0.087	27.6	0.0983	0.0000	OK
30 minute summer	S158	19	163.895	0.081	27.7	0.0912	0.0000	OK
30 minute summer	S159	19	160.937	0.080	27.7	0.0905	0.0000	OK
30 minute summer	S160	19	158.835	0.068	27.7	0.0766	0.0000	OK
30 minute summer	S161	19	156.229	0.065	27.7	0.0734	0.0000	OK
30 minute summer	S162	19	151.524	0.065	27.5	0.0739	0.0000	OK
30 minute summer	S163	20	147.847	0.065	27.4	0.0735	0.0000	OK
30 minute summer	S164	20	143.940	0.157	27.5	0.1774	0.0000	OK
30 minute summer	S165	20	143.882	0.144	27.6	0.2057	0.0000	OK
15 minute summer	Cells 7	1	156.912	0.000	0.0	0.0000	0.0000	OK
15 minute summer	CP7	1	156.896	0.000	0.0	0.0000	0.0000	OK
960 minute winter	S81	915	161.541	0.190	5.0	0.0000	0.0000	SURCHARGED
960 minute winter	S82HW	915	161.536	1.042	5.0	0.0000	0.0000	OK
480 minute summer	S90	360	158.336	0.981	5.7	5.6166	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S129	18.005	S130	256.0	1.185	1.063	12.0045	
30 minute summer	S130	18.006	S131	292.3	1.435	1.212	4.7754	
30 minute summer	S131	18.007	S132	332.8	2.171	1.387	2.8222	
30 minute summer	S132	18.008	S133	367.4	2.936	0.448	2.9995	
30 minute summer	S133	18.009	S134	367.3	2.958	0.447	1.2692	
30 minute summer	S134	18.010	S135	406.9	3.228	0.496	5.3770	
30 minute summer	S135	18.011	S136	418.2	2.838	0.510	2.5415	
30 minute summer	S136	18.012	S137	421.0	2.570	0.513	1.8760	
30 minute summer	S137	18.013	S139	432.1	2.622	0.713	3.8484	
30 minute summer	S139	18.014	S141HW	461.0	3.080	0.735	2.9548	
1440 minute winter	S141HW	Flow through Pond	S142HW	23.3	0.017	0.000	1095.4303	
1440 minute winter	S142HW	18.016	S143HB	5.1	0.154	0.029	0.9599	
1440 minute winter	S143HB	18.017	S144	5.0	0.800	0.118	0.1426	
30 minute summer	S144	18.018	S145	27.6	1.606	0.409	1.0406	
30 minute summer	S145	18.019	S146	27.6	1.989	0.305	0.5750	
30 minute summer	S158	16.020	S159	27.7	2.212	0.263	0.4441	
30 minute summer	S159	16.021	S160	27.7	2.304	0.237	0.1418	
30 minute summer	S160	16.022	S161	27.7	2.880	0.175	0.1166	
30 minute summer	S161	16.023	S162	27.5	2.958	0.174	0.3280	
30 minute summer	S162	16.024	S163	27.4	2.936	0.174	0.2235	
30 minute summer	S163	16.025	S164	27.5	2.954	0.174	0.2845	
30 minute summer	S164	16.026	S165	27.6	0.979	0.692	0.2140	
30 minute summer	S165	16.027	S166	27.6	1.071	0.683	0.1396	1030.4
15 minute summer	Cells 7	12.000	CP7	0.0	0.000	0.000	0.0000	
15 minute summer	CP7	12.001	S112HB	0.0	0.000	0.000	0.0000	
15 minute summer	CP7	Orifice	S112HB	0.0				0.0
960 minute winter	S81	6.000	S82HW	5.0	0.835	0.299	0.1004	
960 minute winter	S82HW	Flow through Pond	S83HW	10.1	0.030	0.000	346.9767	
480 minute summer	S90	3.010	S98	7.2	0.414	0.003	41.7864	

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.91%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	S10	20	177.495	2.236	94.9	5.6915	0.0000	SURCHARGED
30 minute summer	S11	20	177.457	2.363	112.9	8.1852	0.0000	SURCHARGED
15 minute summer	S168	11	168.170	0.411	588.4	1.4239	0.0000	OK
30 minute summer	S17	20	177.425	2.399	164.8	8.3116	0.0000	SURCHARGED
30 minute summer	S18	20	177.596	0.924	64.4	2.3504	0.0000	SURCHARGED
15 minute summer	S20	10	174.512	0.089	11.6	0.1009	0.0000	OK
1440 minute winter	Cells 1	1410	162.114	0.620	5.5	70.6641	0.0000	SURCHARGED
1440 minute winter	CP1	1410	162.114	0.639	5.6	0.9138	0.0000	SURCHARGED

1440 minute summer	S169HW	2550	167.938	1.203	84.9	0.0000	0.0000	OK
720 minute summer	S147	345	168.639	0.076	24.0	0.0854	0.0000	OK
15 minute summer	S30	10	174.670	0.583	183.1	1.4842	0.0000	SURCHARGED
15 minute summer	S31	10	174.570	0.533	194.8	1.3569	0.0000	SURCHARGED
15 minute summer	S32	10	174.503	0.486	215.2	1.6833	0.0000	SURCHARGED
15 minute summer	S33	11	174.392	0.411	241.3	1.0460	0.0000	OK
15 minute summer	S34	11	174.200	0.270	298.0	0.6881	0.0000	OK
15 minute summer	S35	11	173.534	0.280	317.6	0.4945	0.0000	OK
15 minute summer	S37	11	172.903	0.360	429.5	1.2454	0.0000	OK
30 minute summer	S38	18	169.705	0.279	561.8	0.9666	0.0000	OK
15 minute summer	S40	11	168.559	0.392	582.8	1.7715	0.0000	OK
600 minute winter	S43	465	165.235	0.869	2.5	1.2437	0.0000	SURCHARGED
600 minute winter	S44	465	165.236	4.957	8.9	22.4244	0.0000	SURCHARGED
600 minute winter	S46	465	165.236	5.018	13.1	35.4709	0.0000	SURCHARGED
1440 minute winter	S78	1050	162.135	0.685	3.0	1.7442	0.0000	SURCHARGED
120 minute summer	S120	68	160.736	3.572	123.7	16.1614	0.0000	SURCHARGED
1440 minute winter	S74	1050	162.135	0.423	5.0	1.0774	0.0000	OK
1440 minute winter	S75	1050	162.135	0.564	10.2	1.4363	0.0000	SURCHARGED
1440 minute winter	S77	1050	162.135	0.692	16.3	2.3982	0.0000	SURCHARGED
1440 minute winter	S79	1050	162.135	0.719	18.8	2.4917	0.0000	SURCHARGED
1440 minute winter	S80HW	1050	162.139	1.645	18.8	0.0000	0.0000	OK
1440 minute winter	S83HW	1050	162.134	1.700	13.5	0.0000	0.0000	FLOOD RISK
15 minute summer	S84	11	166.035	0.344	46.0	0.4929	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	S10	18.000	S11	78.1	0.931	0.692	3.0872	
30 minute summer	S11	18.001	S17	92.3	0.582	0.576	4.3393	
15 minute summer	S168	16.009	S169HW	585.9	2.207	0.537	7.2310	
30 minute summer	S17	18.002	S127	173.8	1.097	1.076	2.5080	
30 minute summer	S18	19.000	S17	58.5	2.910	0.395	0.7024	
15 minute summer	S20	17.000	S33	11.5	0.819	0.298	0.1548	
1440 minute winter	Cells 1	4.000	CP1	-5.5	-0.515	-0.139	0.1292	
1440 minute winter	CP1	4.001	S77	-5.6	-1.470	-15.082	0.1117	
1440 minute winter	CP1	Orifice	S77	2.2				71.7
1440 minute summer	S169HW	Pond	S149HW	47.4	0.056	0.001		
720 minute summer	S147	21.000	S168	24.0	2.186	0.205	0.0941	
15 minute summer	S30	16.000	S31	181.2	1.144	1.135	3.2086	
15 minute summer	S31	16.001	S32	193.2	1.219	1.200	1.2617	
15 minute summer	S32	16.002	S33	213.6	1.350	1.320	2.2044	
15 minute summer	S33	16.003	S34	242.2	1.881	1.515	2.5876	
15 minute summer	S34	16.004	S35	299.2	2.947	0.569	2.6056	
15 minute summer	S35	16.005	S37	319.1	2.660	0.607	3.2350	
15 minute summer	S37	16.006	S38	431.5	3.449	0.821	3.8153	
30 minute summer	S38	16.007	S40	561.1	3.497	0.394	4.7417	
15 minute summer	S40	16.008	S168	583.4	3.188	0.515	3.0297	
600 minute winter	S43	1.000	S44	2.5	1.466	0.016	0.7052	
600 minute winter	S44	1.001	S46	5.4	0.277	0.003	27.4230	
600 minute winter	S46	1.002	S47	-6.0	0.330	-0.003	39.0506	
1440 minute winter	S78	5.000	S79	2.9	0.311	0.018	2.1113	
120 minute summer	S120	13.002	S122HB	48.7	0.362	0.023	21.6317	
1440 minute winter	S74	3.000	S75	5.0	0.504	0.031	4.1329	
1440 minute winter	S75	3.001	S77	10.2	0.487	0.042	11.0306	
1440 minute winter	S77	3.002	S79	15.6	0.886	0.064	2.3079	
1440 minute winter	S79	3.003	S80HW	18.8	0.954	0.035	3.5859	
1440 minute winter	S80HW	Flow through Pond	S83HW	10.3	0.020	0.000	668.0691	
1440 minute winter	S83HW	3.005	S87HB	9.9	0.169	0.060	3.2909	
15 minute summer	S84	7.000	S85	43.5	2.610	0.994	0.2741	

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.91%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S85	11	164.794	0.112	64.4	0.1971	0.0000	OK
15 minute summer	S86	11	162.571	0.178	116.5	0.3147	0.0000	OK
1440 minute winter	S87HB	1050	162.134	1.755	12.3	10.0511	0.0000	SURCHARGED
1440 minute winter	S88HW	2880	161.494	1.652	9.9	0.0000	0.0000	OK
1440 minute winter	S167HW	2880	161.495	1.685	8.1	0.0000	0.0000	SURCHARGED
1440 minute winter	S89HB	2880	161.495	1.701	5.9	7.6975	0.0000	SURCHARGED
30 minute summer	S91	19	166.729	1.885	122.8	2.6980	0.0000	SURCHARGED
30 minute summer	S92	19	165.199	2.528	157.0	4.4670	0.0000	SURCHARGED
15 minute summer	S94	11	160.998	0.629	212.4	1.1109	0.0000	SURCHARGED
600 minute winter	S95	570	160.312	3.028	34.9	10.4894	0.0000	SURCHARGED
15 minute summer	S96	10	162.797	0.122	63.5	0.1742	0.0000	OK
15 minute summer	S97	10	161.164	0.177	147.2	0.3123	0.0000	OK
600 minute winter	S98	570	160.312	3.059	59.2	21.6249	0.0000	SURCHARGED
600 minute winter	S99	570	160.312	3.101	62.3	17.7570	0.0000	SURCHARGED
600 minute winter	S47	465	165.236	5.105	14.4	29.2308	0.0000	SURCHARGED
600 minute winter	S48	465	165.236	5.180	16.2	29.6612	0.0000	SURCHARGED
600 minute winter	S49	465	165.237	5.305	14.2	30.3792	0.0000	SURCHARGED
600 minute winter	S50	465	165.237	5.365	12.7	30.7179	0.0000	SURCHARGED
600 minute winter	S51	465	165.237	5.022	4.3	12.7804	0.0000	SURCHARGED
600 minute winter	S57HB	465	165.237	5.414	14.4	38.2695	0.0000	FLOOD RISK
600 minute winter	S60	570	160.312	2.991	12.2	17.1272	0.0000	SURCHARGED
480 minute winter	CP6	496	159.200	2.008	36.1	2.2708	0.0000	OK
600 minute winter	S61	570	160.312	3.094	22.8	17.7168	0.0000	SURCHARGED
600 minute winter	S100	570	160.312	3.171	85.7	22.4165	0.0000	SURCHARGED
600 minute winter	S101	570	160.312	3.252	93.8	18.6213	0.0000	SURCHARGED
360 minute winter	S102	288	163.417	2.110	8.3	7.3097	0.0000	SURCHARGED
360 minute winter	S103	288	163.417	2.185	11.3	9.8860	0.0000	SURCHARGED
360 minute winter	S104	288	163.417	2.211	7.0	7.6601	0.0000	SURCHARGED
360 minute winter	S105	288	163.417	2.262	8.9	12.9542	0.0000	SURCHARGED
360 minute winter	S106HB	288	163.417	2.317	8.7	13.2695	0.0000	SURCHARGED
600 minute winter	S107	570	160.312	3.107	24.7	17.7907	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S85	7.001	S86	64.4	2.405	0.498	0.9964	187.1
15 minute summer	S86	7.002	S87HB	116.4	3.807	0.760	0.3270	
1440 minute winter	S87HB	3.006	S88HW	9.9	1.113	0.163	0.6639	
1440 minute winter	S88HW	Flow through Pond	S167HW	7.8	0.020	0.000	700.7896	
1440 minute winter	S167HW	3.008	S89HB	5.9	0.280	0.037	1.0964	
1440 minute winter	S89HB	3.009	S90	5.9	0.939	0.299	0.0447	
30 minute summer	S91	8.000	S92	112.8	2.836	1.368	1.0714	
30 minute summer	S92	8.001	S94	152.3	3.829	1.846	1.2623	
15 minute summer	S94	8.002	S95	211.5	3.003	1.068	1.5287	
600 minute winter	S95	8.003	S98	34.9	0.342	0.017	13.9532	
15 minute summer	S96	9.000	S97	63.0	2.973	0.526	0.6511	
15 minute summer	S97	9.001	S98	146.3	3.596	0.566	1.0134	
600 minute winter	S98	3.011	S99	59.4	0.534	0.028	19.0267	
600 minute winter	S99	3.012	S100	62.2	0.436	0.029	31.4431	
600 minute winter	S47	1.003	S48	-12.8	0.281	-0.006	34.0942	
600 minute winter	S48	1.004	S49	8.2	0.334	0.004	56.1957	
600 minute winter	S49	1.005	S50	10.7	0.345	0.005	26.6309	
600 minute winter	S50	1.006	S57HB	9.8	0.101	0.005	22.0553	
600 minute winter	S51	2.000	S57HB	2.7	0.396	0.003	22.3025	
600 minute winter	S57HB	1.007	S60	11.5	1.807	0.081	0.7458	
600 minute winter	S60	1.008	S61	11.8	0.398	0.006	46.3179	
480 minute winter	CP6	14.000	S120	-36.1	-2.290	-97.513	0.0722	
480 minute winter	CP6	Orifice	S120	5.1				
600 minute winter	S61	1.009	S100	23.0	0.343	0.011	34.8750	
600 minute winter	S100	1.010	S101	85.7	0.554	0.040	35.6817	
600 minute winter	S101	1.011	S110	93.8	0.430	0.044	28.3052	
360 minute winter	S102	10.000	S103	4.4	0.229	0.002	33.3957	
360 minute winter	S103	10.001	S105	4.3	0.269	0.002	34.8131	
360 minute winter	S104	11.000	S105	4.2	0.200	0.002	22.6987	
360 minute winter	S105	10.002	S106HB	4.6	0.137	0.002	24.8913	
360 minute winter	S106HB	10.003	S107	6.2	1.352	0.205	0.2341	
600 minute winter	S107	10.004	S108	24.7	0.433	0.012	26.2625	

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.91%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	S129	20	177.098	2.294	458.5	5.8376	0.0000	SURCHARGED
30 minute summer	S130	20	176.564	1.899	526.9	4.8322	0.0000	SURCHARGED
30 minute summer	S131	20	176.194	1.588	580.7	5.5008	0.0000	SURCHARGED
30 minute summer	S132	20	175.788	1.228	612.8	4.2550	0.0000	SURCHARGED
30 minute summer	S133	20	175.220	1.343	602.5	3.4188	0.0000	SURCHARGED
30 minute summer	S134	20	174.866	1.279	663.7	4.4287	0.0000	SURCHARGED
30 minute summer	S135	20	173.832	1.461	680.2	3.7181	0.0000	SURCHARGED
30 minute summer	S136	20	173.240	1.360	686.0	3.4618	0.0000	SURCHARGED
30 minute summer	S137	20	172.755	1.200	705.5	4.1551	0.0000	SURCHARGED
1440 minute winter	S139	1350	172.139	0.946	73.1	3.2761	0.0000	SURCHARGED
1440 minute winter	S141HW	1440	172.118	1.552	92.6	0.0000	0.0000	OK
1440 minute winter	S142HW	1440	172.118	1.632	55.2	0.0000	0.0000	SURCHARGED
1440 minute winter	S143HB	1440	172.118	1.650	6.0	7.4642	0.0000	SURCHARGED
30 minute summer	S144	18	170.477	0.150	51.2	0.1694	0.0000	OK
30 minute summer	S145	18	167.936	0.124	50.7	0.1403	0.0000	OK
30 minute summer	S158	19	163.928	0.114	50.2	0.1286	0.0000	OK
30 minute summer	S159	19	160.972	0.115	50.5	0.1299	0.0000	OK
30 minute summer	S160	19	158.863	0.096	50.6	0.1081	0.0000	OK
30 minute summer	S161	19	156.254	0.090	50.7	0.1021	0.0000	OK
30 minute summer	S162	19	151.551	0.092	50.7	0.1036	0.0000	OK
30 minute summer	S163	19	147.873	0.091	50.6	0.1024	0.0000	OK
30 minute summer	S164	19	144.080	0.297	50.5	0.3359	0.0000	SURCHARGED
30 minute summer	S165	20	143.968	0.230	50.1	0.3296	0.0000	SURCHARGED
600 minute winter	Cells 7	570	160.312	3.400	105.8	608.1520	0.0000	FLOOD RISK
600 minute winter	CP7	570	160.312	3.416	106.3	4.8881	0.0000	SURCHARGED
1440 minute winter	S81	1050	162.143	0.792	5.0	0.0000	0.0000	FLOOD RISK
1440 minute winter	S82HW	1050	162.138	1.644	5.0	0.0000	0.0000	OK
600 minute winter	S90	570	160.312	2.957	9.3	16.9325	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	S129	18.005	S130	443.0	2.051	1.839	12.0313	
30 minute summer	S130	18.006	S131	494.7	2.290	2.051	5.0904	
30 minute summer	S131	18.007	S132	551.4	2.553	2.297	4.0089	
30 minute summer	S132	18.008	S133	602.5	3.073	0.735	5.1805	
30 minute summer	S133	18.009	S134	601.8	3.111	0.733	2.1953	
30 minute summer	S134	18.010	S135	661.4	3.282	0.806	9.2175	
30 minute summer	S135	18.011	S136	679.9	3.148	0.829	3.7225	
30 minute summer	S136	18.012	S137	685.8	3.175	0.836	2.4658	
30 minute summer	S137	18.013	S139	705.7	3.267	1.164	5.0150	
1440 minute winter	S139	18.014	S141HW	92.6	1.669	0.148	4.2494	
1440 minute winter	S141HW	Flow through Pond	S142HW	55.2	0.042	0.001	2149.4417	
1440 minute winter	S142HW	18.016	S143HB	6.0	0.089	0.034	0.9599	
1440 minute winter	S143HB	18.017	S144	5.3	0.824	0.126	0.1459	
30 minute summer	S144	18.018	S145	50.7	1.846	0.752	1.6627	
30 minute summer	S145	18.019	S146	50.3	2.306	0.555	0.9037	
30 minute summer	S158	16.020	S159	50.5	2.578	0.479	0.6941	
30 minute summer	S159	16.021	S160	50.6	2.661	0.433	0.2243	
30 minute summer	S160	16.022	S161	50.7	3.350	0.321	0.1836	
30 minute summer	S161	16.023	S162	50.7	3.486	0.321	0.5126	
30 minute summer	S162	16.024	S163	50.6	3.449	0.321	0.3517	
30 minute summer	S163	16.025	S164	50.5	3.470	0.320	0.4444	
30 minute summer	S164	16.026	S165	50.1	1.259	1.255	0.3022	
30 minute summer	S165	16.027	S166	50.1	1.306	1.239	0.2026	1138.5
600 minute winter	Cells 7	12.000	CP7	-105.8	-2.990	-2.693	0.1107	
600 minute winter	CP7	12.001	S112HB	-106.3	-2.646	-129.297	0.2282	
600 minute winter	CP7	Orifice	S112HB	11.5				403.4
1440 minute winter	S81	6.000	S82HW	5.0	0.835	0.299	0.1004	
1440 minute winter	S82HW	Flow through Pond	S83HW	10.3	0.020	0.000	668.0691	
600 minute winter	S90	3.010	S98	6.6	0.418	0.003	45.7726	

Design Settings

Frequency of use (kDU)	0.00	Minimum Velocity (m/s)	1.00
Flow per dwelling per day (l/day)	4000	Connection Type	Level Soffits
Domestic Flow (l/s/ha)	5.6	Minimum Backdrop Height (m)	1.000
Industrial Flow (l/s/ha)	0.0	Preferred Cover Depth (m)	1.200
Additional Flow (%)	0	Include Intermediate Ground	✓

Nodes

Name	Dwellings	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
F3	11	177.537	1200	393245.672	415451.178	2.361	175.176
F4		178.126	1200	393229.897	415437.393	3.160	174.966
F5	11	178.500	1500	393217.754	415423.557	3.718	174.782
F6	3	178.620	1350	393252.637	415336.135	1.659	176.961
F7	2	178.298	1350	393228.300	415350.202	1.806	176.492
F8	15	177.573	1500	393185.352	415386.863	3.280	174.293
F9	11	177.436	1350	393143.276	415422.715	3.696	173.740
F10	11	177.215	1500	393170.767	415454.810	3.898	173.317
F11		177.196	1200	393187.282	415475.435	4.143	173.053
F12	2	177.183	1350	393193.523	415488.759	4.277	172.906
F13	13	174.391	1500	393143.174	415512.349	3.284	171.107
F14		173.674	1350	393124.550	415518.571	2.698	170.976
F15		173.610	1350	393130.264	415544.524	2.811	170.799
F16		173.583	1200	393160.294	415544.567	2.984	170.599
F17		171.748	1350	393196.993	415544.291	1.394	170.354
F18		169.967	1350	393238.856	415528.101	1.535	168.432
F19		170.600	1200	393263.253	415490.296	4.096	166.504
F20		167.682	1350	393289.418	415474.559	3.182	164.500
F21	3	167.332	1350	393315.727	415487.760	3.028	164.304
F22	5	168.297	1350	393371.857	415449.274	1.650	166.647
F23	2	167.173	1350	393345.796	415473.561	1.650	165.523
F24	4	166.409	1500	393332.827	415497.306	3.443	162.966
F25	7	163.847	1500	393380.022	415524.243	2.581	161.266
F26	22	176.554	1350	393265.133	415293.735	2.506	174.048
F27		177.297	1200	393274.839	415305.716	3.351	173.946
F28	3	177.854	1500	393280.218	415316.613	3.989	173.865
F29	6	178.272	1350	393282.680	415327.347	4.482	173.790
F30	7	177.940	1350	393302.967	415325.227	4.286	173.654
F31	8	176.780	1500	393351.915	415326.487	3.453	173.327
F32	9	176.177	1350	393370.730	415327.234	2.975	173.202
F33		173.484	1200	393411.228	415327.654	2.150	171.334
F34		169.538	1200	393458.531	415326.886	1.843	167.695
F35		168.475	1350	393472.726	415328.611	1.880	166.595
F36	8	166.991	1350	393491.931	415343.791	3.779	163.212
F37	9	164.240	1350	393538.029	415291.366	1.776	162.464
F38		163.464	1350	393557.104	415298.533	1.745	161.719
F39	13	164.342	1500	393537.130	415351.145	3.344	160.998
F40	5	164.819	1350	393576.863	415416.862	1.664	163.155
F41		163.649	1350	393559.796	415410.125	1.621	162.028
F42		163.483	1200	393551.479	415399.130	1.722	161.761
F43	4	164.641	1350	393532.905	415366.025	3.615	161.026
F44		164.913	1350	393528.676	415361.600	4.006	160.907
F45		166.079	1350	393508.444	415353.373	5.321	160.758
F46		166.365	1200	393494.526	415382.280	5.827	160.538
F47	3	166.426	1350	393486.930	415391.958	5.972	160.454
F48	13	164.753	1350	393555.555	415498.367	3.768	160.985
F49		162.577	1350	393519.939	415490.070	1.836	160.741
F50	1	162.315	1350	393509.306	415481.623	1.664	160.651
F51	12	163.211	1500	393488.539	415461.320	2.754	160.457
F52	12	165.614	1500	393452.631	415426.212	5.492	160.122
F53		165.586	1200	393434.212	415445.250	5.641	159.945
F54	1	165.660	1350	393422.851	415461.811	5.848	159.812
F1	3	167.376	1350	393599.683	415508.315	1.445	165.931
F56	6	165.217	1500	393413.038	415479.177	5.538	159.679
F2		167.866	1350	393609.359	415510.781	2.940	164.926
F58	12	161.674	1350	393476.949	415516.685	1.631	160.043
F59		164.689	1350	393421.381	415484.181	5.075	159.614
F60	4	161.310	1350	393452.892	415567.480	1.534	159.776

Nodes

Name	Dwellings	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
F61	10	162.628	1500	393412.060	415543.227	3.446	159.182
F62	14	163.341	1800	393392.650	415531.744	4.309	159.032
F63	9	161.553	1350	393365.275	415576.906	2.874	158.679
F64	6	165.378	1350	393308.935	415543.907	1.528	163.850
F66	9	162.820	1500	393347.496	415566.334	3.495	159.325
F65		161.949	1350	393359.490	415573.469	5.362	156.587
FW PENSTOCK		161.650	1800	393354.218	415582.444	6.049	155.601
FWPS		161.650	3000	393352.030	415586.122	6.060	155.590

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)
1.000	F3	F4	20.949	1.500	175.176	174.966	0.210	99.8	150
1.001	F4	F5	18.409	1.500	174.966	174.782	0.184	100.0	150
1.002	F5	F8	48.952	1.500	174.782	174.293	0.489	100.1	150
2.000	F6	F7	28.110	1.500	176.961	176.492	0.469	59.9	150
2.001	F7	F8	56.467	1.500	176.492	175.787	0.705	80.1	150
1.003	F8	F9	55.279	1.500	174.293	173.740	0.553	100.0	150
1.004	F9	F10	42.259	1.500	173.740	173.317	0.423	100.0	150
1.005	F10	F11	26.422	1.500	173.317	173.053	0.264	100.0	150
1.006	F11	F12	14.713	1.500	173.053	172.906	0.147	100.0	150
1.007	F12	F13	55.601	1.500	172.906	172.350	0.556	100.0	150
1.008	F13	F14	19.636	1.500	171.107	170.976	0.131	149.9	150
1.009	F14	F15	26.574	1.500	170.976	170.799	0.177	150.1	150
1.010	F15	F16	30.030	1.500	170.799	170.599	0.200	150.2	150
1.011	F16	F17	36.700	1.500	170.599	170.354	0.245	149.8	150
1.012	F17	F18	44.885	1.500	170.354	168.432	1.922	23.4	150
1.013	F18	F19	44.993	1.500	168.432	166.504	1.928	23.3	150
1.014	F19	F20	30.533	1.500	166.504	164.500	2.004	15.2	150
1.015	F20	F21	29.435	1.500	164.500	164.304	0.196	150.2	150
1.016	F21	F24	19.585	1.500	164.304	164.173	0.131	149.5	150
3.000	F22	F23	35.624	1.500	166.647	165.523	1.124	31.7	150
3.001	F23	F24	27.056	1.500	165.523	164.466	1.057	25.6	150
1.017	F24	F25	54.340	1.500	162.966	162.604	0.362	150.1	150
1.018	F25	F62	14.688	1.500	161.266	160.531	0.735	20.0	150
4.000	F26	F27	15.419	1.500	174.048	173.946	0.102	151.2	150

Name	Pro Vel @ 1/3 Q (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Dwellings (ha)	Σ Units (ha)	Σ Add Inflow (ha)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	0.278	0.877	15.5	0.5	2.211	3.010	0.000	11	0.0	0.0	19	0.396
1.001	0.277	0.875	15.5	0.5	3.010	3.568	0.000	11	0.0	0.0	19	0.395
1.002	0.344	0.875	15.5	1.0	3.568	3.130	0.000	22	0.0	0.0	26	0.486
2.000	0.210	1.133	20.0	0.1	1.509	1.656	0.000	3	0.0	0.0	9	0.304
2.001	0.224	0.979	17.3	0.2	1.656	1.636	0.000	5	0.0	0.0	13	0.333
1.003	0.427	0.876	15.5	1.9	3.130	3.546	0.000	42	0.0	0.0	36	0.594
1.004	0.457	0.876	15.5	2.5	3.546	3.748	0.000	53	0.0	0.0	41	0.639
1.005	0.486	0.876	15.5	3.0	3.748	3.993	0.000	64	0.0	0.0	45	0.675
1.006	0.486	0.876	15.5	3.0	3.993	4.127	0.000	64	0.0	0.0	45	0.675
1.007	0.486	0.876	15.5	3.1	4.127	1.891	0.000	66	0.0	0.0	45	0.680
1.008	0.450	0.714	12.6	3.7	3.134	2.548	0.000	79	0.0	0.0	55	0.618
1.009	0.450	0.714	12.6	3.7	2.548	2.661	0.000	79	0.0	0.0	55	0.617
1.010	0.450	0.714	12.6	3.7	2.661	2.834	0.000	79	0.0	0.0	55	0.617
1.011	0.450	0.715	12.6	3.7	2.834	1.244	0.000	79	0.0	0.0	55	0.618
1.012	0.857	1.818	32.1	3.7	1.244	1.385	0.000	79	0.0	0.0	34	1.199
1.013	0.858	1.818	32.1	3.7	1.385	3.946	0.000	79	0.0	0.0	34	1.199
1.014	1.000	2.252	39.8	3.7	3.946	3.032	0.000	79	0.0	0.0	31	1.390
1.015	0.450	0.714	12.6	3.7	3.032	2.878	0.000	79	0.0	0.0	55	0.617
1.016	0.456	0.715	12.6	3.8	2.878	2.086	0.000	82	0.0	0.0	57	0.625
3.000	0.314	1.560	27.6	0.2	1.500	1.500	0.000	5	0.0	0.0	10	0.459
3.001	0.375	1.736	30.7	0.3	1.500	1.793	0.000	7	0.0	0.0	11	0.553
1.017	0.470	0.714	12.6	4.3	3.293	1.093	0.000	93	0.0	0.0	61	0.646
1.018	0.979	1.965	34.7	4.6	2.431	2.660	0.000	100	0.0	0.0	37	1.361
4.000	0.300	0.711	12.6	1.0	2.356	3.201	0.000	22	0.0	0.0	29	0.422

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)
4.001	F27	F28	12.152	1.500	173.946	173.865	0.081	150.0	150
4.002	F28	F29	11.013	1.500	173.865	173.790	0.075	146.8	150
4.003	F29	F30	20.398	1.500	173.790	173.654	0.136	150.0	150
4.004	F30	F31	48.964	1.500	173.654	173.327	0.327	149.7	150
4.005	F31	F32	18.829	1.500	173.327	173.202	0.125	150.6	150
4.006	F32	F33	40.500	1.500	173.202	171.334	1.868	21.7	150
4.007	F33	F34	47.310	1.500	171.334	167.695	3.639	13.0	150
4.008	F34	F35	14.299	1.500	167.695	166.595	1.100	13.0	150
4.009	F35	F36	24.480	1.500	166.595	164.712	1.883	13.0	150
4.010	F36	F45	19.091	1.500	163.212	162.257	0.955	20.0	150
5.000	F37	F38	20.377	1.500	162.464	161.719	0.745	27.4	150
5.001	F38	F39	56.275	1.500	161.719	160.998	0.721	78.1	150
5.002	F39	F44	13.446	1.500	160.998	160.907	0.091	147.8	150
6.000	F40	F41	18.349	1.500	163.155	162.028	1.127	16.3	150
6.001	F41	F42	13.786	1.500	162.028	161.761	0.267	51.6	150
6.002	F42	F43	37.959	1.500	161.761	161.026	0.735	51.6	150
6.003	F43	F44	6.121	1.500	161.026	160.907	0.119	51.4	150
5.003	F44	F45	21.841	1.500	160.907	160.758	0.149	146.6	150
4.011	F45	F46	32.083	1.500	160.758	160.538	0.220	145.8	150
4.012	F46	F47	12.303	1.500	160.538	160.454	0.084	146.5	150
4.013	F47	F52	48.474	1.500	160.454	160.122	0.332	146.0	150
7.000	F48	F49	36.570	1.500	160.985	160.741	0.244	149.9	150
7.001	F49	F50	13.580	1.500	160.741	160.651	0.090	150.9	150
7.002	F50	F51	29.043	1.500	160.651	160.457	0.194	149.7	150
7.003	F51	F52	50.219	1.500	160.457	160.122	0.335	149.9	150
4.014	F52	F53	26.489	1.500	160.122	159.945	0.177	149.7	150
4.015	F53	F54	20.084	1.500	159.945	159.812	0.133	151.0	150
4.016	F54	F56	19.947	1.500	159.812	159.679	0.133	150.0	150
11.000	F1	F2	9.985	1.500	165.931	164.926	1.005	9.9	150
4.017	F56	F59	9.728	1.500	159.679	159.614	0.065	149.7	150

Name	Pro Vel @ 1/3 Q (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Dwellings (ha)	Σ Units (ha)	Σ Add Inflow (ha)	Pro Depth (mm)	Pro Velocity (m/s)
4.001	0.301	0.714	12.6	1.0	3.201	3.839	0.000	22	0.0	0.0	29	0.424
4.002	0.319	0.722	12.8	1.2	3.839	4.332	0.000	25	0.0	0.0	31	0.444
4.003	0.335	0.714	12.6	1.4	4.332	4.136	0.000	31	0.0	0.0	34	0.470
4.004	0.361	0.715	12.6	1.8	4.136	3.303	0.000	38	0.0	0.0	38	0.499
4.005	0.378	0.713	12.6	2.1	3.303	2.825	0.000	46	0.0	0.0	42	0.528
4.006	0.783	1.887	33.3	2.5	2.825	2.000	0.000	55	0.0	0.0	28	1.109
4.007	0.938	2.438	43.1	2.5	2.000	1.693	0.000	55	0.0	0.0	25	1.318
4.008	0.938	2.438	43.1	2.5	1.693	1.730	0.000	55	0.0	0.0	25	1.318
4.009	0.938	2.438	43.1	2.5	1.730	2.129	0.000	55	0.0	0.0	25	1.318
4.010	0.835	1.965	34.7	2.9	3.629	3.672	0.000	63	0.0	0.0	30	1.184
5.000	0.409	1.679	29.7	0.4	1.626	1.595	0.000	9	0.0	0.0	13	0.573
5.001	0.279	0.992	17.5	0.4	1.595	3.194	0.000	9	0.0	0.0	16	0.400
5.002	0.304	0.719	12.7	1.0	3.194	3.856	0.000	22	0.0	0.0	29	0.427
6.000	0.407	2.178	38.5	0.2	1.514	1.471	0.000	5	0.0	0.0	8	0.560
6.001	0.262	1.221	21.6	0.2	1.471	1.572	0.000	5	0.0	0.0	11	0.388
6.002	0.262	1.221	21.6	0.2	1.572	3.465	0.000	5	0.0	0.0	11	0.388
6.003	0.329	1.223	21.6	0.4	3.465	3.856	0.000	9	0.0	0.0	15	0.469
5.003	0.339	0.722	12.8	1.4	3.856	5.171	0.000	31	0.0	0.0	34	0.475
4.011	0.477	0.724	12.8	4.4	5.171	5.677	0.000	94	0.0	0.0	60	0.653
4.012	0.476	0.723	12.8	4.4	5.677	5.822	0.000	94	0.0	0.0	61	0.654
4.013	0.481	0.724	12.8	4.5	5.822	5.342	0.000	97	0.0	0.0	61	0.659
7.000	0.258	0.714	12.6	0.6	3.618	1.686	0.000	13	0.0	0.0	23	0.361
7.001	0.257	0.712	12.6	0.6	1.686	1.514	0.000	13	0.0	0.0	23	0.359
7.002	0.258	0.715	12.6	0.6	1.514	2.604	0.000	14	0.0	0.0	23	0.367
7.003	0.315	0.714	12.6	1.2	2.604	5.342	0.000	26	0.0	0.0	31	0.445
4.014	0.526	0.715	12.6	6.3	5.342	5.491	0.000	135	0.0	0.0	75	0.714
4.015	0.523	0.712	12.6	6.3	5.491	5.698	0.000	135	0.0	0.0	75	0.710
4.016	0.525	0.714	12.6	6.3	5.698	5.388	0.000	136	0.0	0.0	75	0.713
11.000	0.387	2.790	49.3	0.1	1.295	2.790	0.000	3	0.0	0.0	6	0.565
4.017	0.534	0.715	12.6	6.6	5.388	4.925	0.000	142	0.0	0.0	77	0.723

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)
8.000	F58	F59	64.376	1.500	160.043	159.614	0.429	150.1	150
4.018	F59	F62	55.567	1.500	159.614	159.032	0.582	95.5	150
9.000	F60	F61	47.491	1.500	159.776	159.182	0.594	80.0	150
9.001	F61	F62	22.553	1.500	159.182	159.032	0.150	150.4	150
1.019	F62	F63	52.811	1.500	159.032	158.679	0.353	149.6	225
1.020	F63	F65	6.729	1.500	158.679	158.087	0.592	11.4	225
10.000	F64	F66	44.608	1.500	163.850	160.825	3.025	14.7	150
10.001	F66	F65	13.956	1.500	159.325	158.162	1.163	12.0	150
1.021	F65	FW PENSTOCK	10.363	1.500	156.587	155.601	0.986	10.5	225
1.022	FW PENSTOCK	FWPS	4.280	1.500	155.601	155.590	0.011	389.1	225

Name	Pro Vel @ 1/3 Q (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Dwellings (ha)	Σ Units (ha)	Σ Add Inflow (ha)	Pro Depth (mm)	Pro Velocity (m/s)
8.000	0.250	0.714	12.6	0.6	1.481	4.925	0.000	12	0.0	0.0	22	0.354
4.018	0.643	0.896	15.8	7.1	4.925	4.159	0.000	154	0.0	0.0	71	0.873
9.000	0.210	0.980	17.3	0.2	1.384	3.296	0.000	4	0.0	0.0	11	0.311
9.001	0.257	0.713	12.6	0.6	3.296	4.159	0.000	14	0.0	0.0	23	0.366
1.019	0.628	0.937	37.3	13.1	4.084	2.649	0.000	282	0.0	0.0	92	0.854
1.020	1.574	3.415	135.8	13.5	2.649	3.637	0.000	291	0.0	0.0	48	2.176
10.000	0.428	2.289	40.4	0.3	1.378	1.845	0.000	6	0.0	0.0	9	0.619
10.001	0.620	2.538	44.8	0.7	3.345	3.637	0.000	15	0.0	0.0	13	0.896
1.021	1.637	3.551	141.2	14.2	5.137	5.824	0.000	306	0.0	0.0	48	2.263
1.022	0.455	0.579	23.0	14.2	5.824	5.835	0.000	306	0.0	0.0	128	0.609

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	20.949	99.8	150	Circular	177.537	175.176	2.211	178.126	174.966	3.010
1.001	18.409	100.0	150	Circular	178.126	174.966	3.010	178.500	174.782	3.568
1.002	48.952	100.1	150	Circular	178.500	174.782	3.568	177.573	174.293	3.130
2.000	28.110	59.9	150	Circular	178.620	176.961	1.509	178.298	176.492	1.656
2.001	56.467	80.1	150	Circular	178.298	176.492	1.656	177.573	175.787	1.636
1.003	55.279	100.0	150	Circular	177.573	174.293	3.130	177.436	173.740	3.546
1.004	42.259	100.0	150	Circular	177.436	173.740	3.546	177.215	173.317	3.748
1.005	26.422	100.0	150	Circular	177.215	173.317	3.748	177.196	173.053	3.993
1.006	14.713	100.0	150	Circular	177.196	173.053	3.993	177.183	172.906	4.127
1.007	55.601	100.0	150	Circular	177.183	172.906	4.127	174.391	172.350	1.891
1.008	19.636	149.9	150	Circular	174.391	171.107	3.134	173.674	170.976	2.548
1.009	26.574	150.1	150	Circular	173.674	170.976	2.548	173.610	170.799	2.661
1.010	30.030	150.2	150	Circular	173.610	170.799	2.661	173.583	170.599	2.834
1.011	36.700	149.8	150	Circular	173.583	170.599	2.834	171.748	170.354	1.244
1.012	44.885	23.4	150	Circular	171.748	170.354	1.244	169.967	168.432	1.385
1.013	44.993	23.3	150	Circular	169.967	168.432	1.385	170.600	166.504	3.946
1.014	30.533	15.2	150	Circular	170.600	166.504	3.946	167.682	164.500	3.032

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	F3	1200	Manhole	Adoptable	F4	1200	Manhole	Adoptable
1.001	F4	1200	Manhole	Adoptable	F5	1500	Manhole	Adoptable
1.002	F5	1500	Manhole	Adoptable	F8	1500	Manhole	Adoptable
2.000	F6	1350	Manhole	Adoptable	F7	1350	Manhole	Adoptable
2.001	F7	1350	Manhole	Adoptable	F8	1500	Manhole	Adoptable
1.003	F8	1500	Manhole	Adoptable	F9	1350	Manhole	Adoptable
1.004	F9	1350	Manhole	Adoptable	F10	1500	Manhole	Adoptable
1.005	F10	1500	Manhole	Adoptable	F11	1200	Manhole	Adoptable
1.006	F11	1200	Manhole	Adoptable	F12	1350	Manhole	Adoptable
1.007	F12	1350	Manhole	Adoptable	F13	1500	Manhole	Adoptable
1.008	F13	1500	Manhole	Adoptable	F14	1350	Manhole	Adoptable
1.009	F14	1350	Manhole	Adoptable	F15	1350	Manhole	Adoptable
1.010	F15	1350	Manhole	Adoptable	F16	1200	Manhole	Adoptable
1.011	F16	1200	Manhole	Adoptable	F17	1350	Manhole	Adoptable
1.012	F17	1350	Manhole	Adoptable	F18	1350	Manhole	Adoptable
1.013	F18	1350	Manhole	Adoptable	F19	1200	Manhole	Adoptable
1.014	F19	1200	Manhole	Adoptable	F20	1350	Manhole	Adoptable

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.015	29.435	150.2	150	Circular	167.682	164.500	3.032	167.332	164.304	2.878
1.016	19.585	149.5	150	Circular	167.332	164.304	2.878	166.409	164.173	2.086
3.000	35.624	31.7	150	Circular	168.297	166.647	1.500	167.173	165.523	1.500
3.001	27.056	25.6	150	Circular	167.173	165.523	1.500	166.409	164.466	1.793
1.017	54.340	150.1	150	Circular	166.409	162.966	3.293	163.847	162.604	1.093
1.018	14.688	20.0	150	Circular	163.847	161.266	2.431	163.341	160.531	2.660
4.000	15.419	151.2	150	Circular	176.554	174.048	2.356	177.297	173.946	3.201
4.001	12.152	150.0	150	Circular	177.297	173.946	3.201	177.854	173.865	3.839
4.002	11.013	146.8	150	Circular	177.854	173.865	3.839	178.272	173.790	4.332
4.003	20.398	150.0	150	Circular	178.272	173.790	4.332	177.940	173.654	4.136
4.004	48.964	149.7	150	Circular	177.940	173.654	4.136	176.780	173.327	3.303
4.005	18.829	150.6	150	Circular	176.780	173.327	3.303	176.177	173.202	2.825
4.006	40.500	21.7	150	Circular	176.177	173.202	2.825	173.484	171.334	2.000
4.007	47.310	13.0	150	Circular	173.484	171.334	2.000	169.538	167.695	1.693
4.008	14.299	13.0	150	Circular	169.538	167.695	1.693	168.475	166.595	1.730
4.009	24.480	13.0	150	Circular	168.475	166.595	1.730	166.991	164.712	2.129
4.010	19.091	20.0	150	Circular	166.991	163.212	3.629	166.079	162.257	3.672
5.000	20.377	27.4	150	Circular	164.240	162.464	1.626	163.464	161.719	1.595
5.001	56.275	78.1	150	Circular	163.464	161.719	1.595	164.342	160.998	3.194
5.002	13.446	147.8	150	Circular	164.342	160.998	3.194	164.913	160.907	3.856
6.000	18.349	16.3	150	Circular	164.819	163.155	1.514	163.649	162.028	1.471
6.001	13.786	51.6	150	Circular	163.649	162.028	1.471	163.483	161.761	1.572
6.002	37.959	51.6	150	Circular	163.483	161.761	1.572	164.641	161.026	3.465
6.003	6.121	51.4	150	Circular	164.641	161.026	3.465	164.913	160.907	3.856
5.003	21.841	146.6	150	Circular	164.913	160.907	3.856	166.079	160.758	5.171
4.011	32.083	145.8	150	Circular	166.079	160.758	5.171	166.365	160.538	5.677
4.012	12.303	146.5	150	Circular	166.365	160.538	5.677	166.426	160.454	5.822
4.013	48.474	146.0	150	Circular	166.426	160.454	5.822	165.614	160.122	5.342
7.000	36.570	149.9	150	Circular	164.753	160.985	3.618	162.577	160.741	1.686
7.001	13.580	150.9	150	Circular	162.577	160.741	1.686	162.315	160.651	1.514
7.002	29.043	149.7	150	Circular	162.315	160.651	1.514	163.211	160.457	2.604
7.003	50.219	149.9	150	Circular	163.211	160.457	2.604	165.614	160.122	5.342

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.015	F20	1350	Manhole	Adoptable	F21	1350	Manhole	Adoptable
1.016	F21	1350	Manhole	Adoptable	F24	1500	Manhole	Adoptable
3.000	F22	1350	Manhole	Adoptable	F23	1350	Manhole	Adoptable
3.001	F23	1350	Manhole	Adoptable	F24	1500	Manhole	Adoptable
1.017	F24	1500	Manhole	Adoptable	F25	1500	Manhole	Adoptable
1.018	F25	1500	Manhole	Adoptable	F62	1800	Manhole	Adoptable
4.000	F26	1350	Manhole	Adoptable	F27	1200	Manhole	Adoptable
4.001	F27	1200	Manhole	Adoptable	F28	1500	Manhole	Adoptable
4.002	F28	1500	Manhole	Adoptable	F29	1350	Manhole	Adoptable
4.003	F29	1350	Manhole	Adoptable	F30	1350	Manhole	Adoptable
4.004	F30	1350	Manhole	Adoptable	F31	1500	Manhole	Adoptable
4.005	F31	1500	Manhole	Adoptable	F32	1350	Manhole	Adoptable
4.006	F32	1350	Manhole	Adoptable	F33	1200	Manhole	Adoptable
4.007	F33	1200	Manhole	Adoptable	F34	1200	Manhole	Adoptable
4.008	F34	1200	Manhole	Adoptable	F35	1350	Manhole	Adoptable
4.009	F35	1350	Manhole	Adoptable	F36	1350	Manhole	Adoptable
4.010	F36	1350	Manhole	Adoptable	F45	1350	Manhole	Adoptable
5.000	F37	1350	Manhole	Adoptable	F38	1350	Manhole	Adoptable
5.001	F38	1350	Manhole	Adoptable	F39	1500	Manhole	Adoptable
5.002	F39	1500	Manhole	Adoptable	F44	1350	Manhole	Adoptable
6.000	F40	1350	Manhole	Adoptable	F41	1350	Manhole	Adoptable
6.001	F41	1350	Manhole	Adoptable	F42	1200	Manhole	Adoptable
6.002	F42	1200	Manhole	Adoptable	F43	1350	Manhole	Adoptable
6.003	F43	1350	Manhole	Adoptable	F44	1350	Manhole	Adoptable
5.003	F44	1350	Manhole	Adoptable	F45	1350	Manhole	Adoptable
4.011	F45	1350	Manhole	Adoptable	F46	1200	Manhole	Adoptable
4.012	F46	1200	Manhole	Adoptable	F47	1350	Manhole	Adoptable
4.013	F47	1350	Manhole	Adoptable	F52	1500	Manhole	Adoptable
7.000	F48	1350	Manhole	Adoptable	F49	1350	Manhole	Adoptable
7.001	F49	1350	Manhole	Adoptable	F50	1350	Manhole	Adoptable
7.002	F50	1350	Manhole	Adoptable	F51	1500	Manhole	Adoptable
7.003	F51	1500	Manhole	Adoptable	F52	1500	Manhole	Adoptable

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
4.014	26.489	149.7	150	Circular	165.614	160.122	5.342	165.586	159.945	5.491
4.015	20.084	151.0	150	Circular	165.586	159.945	5.491	165.660	159.812	5.698
4.016	19.947	150.0	150	Circular	165.660	159.812	5.698	165.217	159.679	5.388
11.000	9.985	9.9	150	Circular	167.376	165.931	1.295	167.866	164.926	2.790
4.017	9.728	149.7	150	Circular	165.217	159.679	5.388	164.689	159.614	4.925
8.000	64.376	150.1	150	Circular	161.674	160.043	1.481	164.689	159.614	4.925
4.018	55.567	95.5	150	Circular	164.689	159.614	4.925	163.341	159.032	4.159
9.000	47.491	80.0	150	Circular	161.310	159.776	1.384	162.628	159.182	3.296
9.001	22.553	150.4	150	Circular	162.628	159.182	3.296	163.341	159.032	4.159
1.019	52.811	149.6	225	Circular	163.341	159.032	4.084	161.553	158.679	2.649
1.020	6.729	11.4	225	Circular	161.553	158.679	2.649	161.949	158.087	3.637
10.000	44.608	14.7	150	Circular	165.378	163.850	1.378	162.820	160.825	1.845
10.001	13.956	12.0	150	Circular	162.820	159.325	3.345	161.949	158.162	3.637
1.021	10.363	10.5	225	Circular	161.949	156.587	5.137	161.650	155.601	5.824
1.022	4.280	389.1	225	Circular	161.650	155.601	5.824	161.650	155.590	5.835

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
4.014	F52	1500	Manhole	Adoptable	F53	1200	Manhole	Adoptable
4.015	F53	1200	Manhole	Adoptable	F54	1350	Manhole	Adoptable
4.016	F54	1350	Manhole	Adoptable	F56	1500	Manhole	Adoptable
11.000	F1	1350	Manhole	Adoptable	F2	1350	Manhole	Adoptable
4.017	F56	1500	Manhole	Adoptable	F59	1350	Manhole	Adoptable
8.000	F58	1350	Manhole	Adoptable	F59	1350	Manhole	Adoptable
4.018	F59	1350	Manhole	Adoptable	F62	1800	Manhole	Adoptable
9.000	F60	1350	Manhole	Adoptable	F61	1500	Manhole	Adoptable
9.001	F61	1500	Manhole	Adoptable	F62	1800	Manhole	Adoptable
1.019	F62	1800	Manhole	Adoptable	F63	1350	Manhole	Adoptable
1.020	F63	1350	Manhole	Adoptable	F65	1350	Manhole	Adoptable
10.000	F64	1350	Manhole	Adoptable	F66	1500	Manhole	Adoptable
10.001	F66	1500	Manhole	Adoptable	F65	1350	Manhole	Adoptable
1.021	F65	1350	Manhole	Adoptable	FW PENSTOCK	1800	Manhole	Adoptable
1.022	FW PENSTOCK	1800	Manhole	Adoptable	FWPS	3000	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
F3	393245.672	415451.178	177.537	2.361	1200					
						0	1.000	175.176	150	
F4	393229.897	415437.393	178.126	3.160	1200		1	1.000	174.966	150
						0	1.001	174.966	150	
F5	393217.754	415423.557	178.500	3.718	1500		1	1.001	174.782	150
						0	1.002	174.782	150	
F6	393252.637	415336.135	178.620	1.659	1350					
						0	2.000	176.961	150	
F7	393228.300	415350.202	178.298	1.806	1350		1	2.000	176.492	150
						0	2.001	176.492	150	
F8	393185.352	415386.863	177.573	3.280	1500		1	2.001	175.787	150
						2	1.002	174.293	150	
						0	1.003	174.293	150	

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
F9	393143.276	415422.715	177.436	3.696	1350	 1	1.003	173.740	150
						 0	1.004	173.740	150
F10	393170.767	415454.810	177.215	3.898	1500	 1	1.004	173.317	150
						 0	1.005	173.317	150
F11	393187.282	415475.435	177.196	4.143	1200	 1	1.005	173.053	150
						 0	1.006	173.053	150
F12	393193.523	415488.759	177.183	4.277	1350	 1	1.006	172.906	150
						 0	1.007	172.906	150
F13	393143.174	415512.349	174.391	3.284	1500	 1	1.007	172.350	150
						 0	1.008	171.107	150
F14	393124.550	415518.571	173.674	2.698	1350	 1	1.008	170.976	150
						 0	1.009	170.976	150
F15	393130.264	415544.524	173.610	2.811	1350	 1	1.009	170.799	150
						 0	1.010	170.799	150
F16	393160.294	415544.567	173.583	2.984	1200	 1	1.010	170.599	150
						 0	1.011	170.599	150
F17	393196.993	415544.291	171.748	1.394	1350	 1	1.011	170.354	150
						 0	1.012	170.354	150
F18	393238.856	415528.101	169.967	1.535	1350	 1	1.012	168.432	150
						 0	1.013	168.432	150
F19	393263.253	415490.296	170.600	4.096	1200	 1	1.013	166.504	150
						 0	1.014	166.504	150
F20	393289.418	415474.559	167.682	3.182	1350	 1	1.014	164.500	150
						 0	1.015	164.500	150
F21	393315.727	415487.760	167.332	3.028	1350	1	1.015	164.304	150
						0	1.016	164.304	150
F22	393371.857	415449.274	168.297	1.650	1350	0			
						0	3.000	166.647	150
F23	393345.796	415473.561	167.173	1.650	1350	1	3.000	165.523	150
						0	3.001	165.523	150
F24	393332.827	415497.306	166.409	3.443	1500	1	3.001	164.466	150
						2	1.016	164.173	150
						0	1.017	162.966	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
F25	393380.022	415524.243	163.847	2.581	1500		1	1.017	162.604	150
							0	1.018	161.266	150
F26	393265.133	415293.735	176.554	2.506	1350		0	4.000	174.048	150
F27	393274.839	415305.716	177.297	3.351	1200		1	4.000	173.946	150
							0	4.001	173.946	150
F28	393280.218	415316.613	177.854	3.989	1500		1	4.001	173.865	150
							0	4.002	173.865	150
F29	393282.680	415327.347	178.272	4.482	1350		1	4.002	173.790	150
							0	4.003	173.790	150
F30	393302.967	415325.227	177.940	4.286	1350		1	4.003	173.654	150
							0	4.004	173.654	150
F31	393351.915	415326.487	176.780	3.453	1500		1	4.004	173.327	150
							0	4.005	173.327	150
F32	393370.730	415327.234	176.177	2.975	1350		1	4.005	173.202	150
							0	4.006	173.202	150
F33	393411.228	415327.654	173.484	2.150	1200		1	4.006	171.334	150
							0	4.007	171.334	150
F34	393458.531	415326.886	169.538	1.843	1200		1	4.007	167.695	150
							0	4.008	167.695	150
F35	393472.726	415328.611	168.475	1.880	1350		1	4.008	166.595	150
							0	4.009	166.595	150
F36	393491.931	415343.791	166.991	3.779	1350		1	4.009	164.712	150
							0	4.010	163.212	150
F37	393538.029	415291.366	164.240	1.776	1350		0	5.000	162.464	150
F38	393557.104	415298.533	163.464	1.745	1350		1	5.000	161.719	150
							0	5.001	161.719	150
F39	393537.130	415351.145	164.342	3.344	1500		1	5.001	160.998	150
							0	5.002	160.998	150
F40	393576.863	415416.862	164.819	1.664	1350		0	6.000	163.155	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
F41	393559.796	415410.125	163.649	1.621	1350	 1	6.000	162.028	150
						 0	6.001	162.028	150
F42	393551.479	415399.130	163.483	1.722	1200	 1	6.001	161.761	150
						 0	6.002	161.761	150
F43	393532.905	415366.025	164.641	3.615	1350	 1	6.002	161.026	150
						 0	6.003	161.026	150
F44	393528.676	415361.600	164.913	4.006	1350	 1	6.003	160.907	150
						 2	5.002	160.907	150
						 0	5.003	160.907	150
F45	393508.444	415353.373	166.079	5.321	1350	 1	5.003	160.758	150
						 2	4.010	162.257	150
						 0	4.011	160.758	150
F46	393494.526	415382.280	166.365	5.827	1200	 1	4.011	160.538	150
						 0	4.012	160.538	150
F47	393486.930	415391.958	166.426	5.972	1350	 1	4.012	160.454	150
						 0	4.013	160.454	150
F48	393555.555	415498.367	164.753	3.768	1350	 0	7.000	160.985	150
F49	393519.939	415490.070	162.577	1.836	1350	 1	7.000	160.741	150
						 0	7.001	160.741	150
F50	393509.306	415481.623	162.315	1.664	1350	 1	7.001	160.651	150
						 0	7.002	160.651	150
F51	393488.539	415461.320	163.211	2.754	1500	 1	7.002	160.457	150
						 0	7.003	160.457	150
F52	393452.631	415426.212	165.614	5.492	1500	 1	7.003	160.122	150
						 2	4.013	160.122	150
						 0	4.014	160.122	150
F53	393434.212	415445.250	165.586	5.641	1200	 1	4.014	159.945	150
						 0	4.015	159.945	150
F54	393422.851	415461.811	165.660	5.848	1350	 1	4.015	159.812	150
						0	4.016	159.812	150
F1	393599.683	415508.315	167.376	1.445	1350	 0	11.000	165.931	150
F56	393413.038	415479.177	165.217	5.538	1500	 1	4.016	159.679	150
						 0	4.017	159.679	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
F2	393609.359	415510.781	167.866	2.940	1350	 1	11.000	164.926	150
F58	393476.949	415516.685	161.674	1.631	1350	 0	8.000	160.043	150
F59	393421.381	415484.181	164.689	5.075	1350	 0 1 2	8.000 4.017	159.614 159.614	150 150
F60	393452.892	415567.480	161.310	1.534	1350	 0	4.018	159.614	150
F61	393412.060	415543.227	162.628	3.446	1500	 1	9.000	159.182	150
F62	393392.650	415531.744	163.341	4.309	1800	 0 1 2 3	9.001 4.018 1.018 1.019	159.032 159.032 160.531 159.032	150 150 150 225
F63	393365.275	415576.906	161.553	2.874	1350	 1	1.019	158.679	225
F64	393308.935	415543.907	165.378	1.528	1350	 0	10.000	163.850	150
F66	393347.496	415566.334	162.820	3.495	1500	 1	10.000	160.825	150
F65	393359.490	415573.469	161.949	5.362	1350	 0 1 2	10.001 1.020	158.162 158.087	150 225
FW PENSTOCK	393354.218	415582.444	161.650	6.049	1800	 0	1.021	155.601	225
FWPS	393352.030	415586.122	161.650	6.060	3000	 1	1.022	155.601	225

Simulation Settings

Analysis Speed	Detailed	Drain Down Time (mins)	1440
Skip Steady State	x	Foul Event Duration (mins)	30

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440

Results for Foul Event Critical Storm Duration. Lowest mass balance: 98.06%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
Foul Event	F3	4	175.196	0.020	0.5	0.0224	0.0000	OK
Foul Event	F4	8	174.985	0.019	0.5	0.0211	0.0000	OK
Foul Event	F5	23	174.808	0.026	1.0	0.0460	0.0000	OK
Foul Event	F6	29	176.969	0.008	0.1	0.0111	0.0000	OK
Foul Event	F7	30	176.504	0.012	0.2	0.0165	0.0000	OK
Foul Event	F8	30	174.329	0.036	1.9	0.0631	0.0000	OK
Foul Event	F9	30	173.780	0.040	2.4	0.0575	0.0000	OK
Foul Event	F10	30	173.362	0.045	2.9	0.0790	0.0000	OK
Foul Event	F11	30	173.098	0.045	2.9	0.0510	0.0000	OK
Foul Event	F12	30	172.951	0.045	3.0	0.0649	0.0000	OK
Foul Event	F13	30	171.163	0.056	3.6	0.0993	0.0000	OK
Foul Event	F14	30	171.032	0.056	3.6	0.0802	0.0000	OK
Foul Event	F15	30	170.854	0.055	3.6	0.0789	0.0000	OK
Foul Event	F16	30	170.658	0.059	3.6	0.0671	0.0000	OK
Foul Event	F17	30	170.388	0.034	3.6	0.0489	0.0000	OK
Foul Event	F18	31	168.467	0.035	3.6	0.0502	0.0000	OK
Foul Event	F19	31	166.535	0.031	3.6	0.0347	0.0000	OK
Foul Event	F20	32	164.556	0.056	3.6	0.0796	0.0000	OK
Foul Event	F21	30	164.361	0.057	3.7	0.0818	0.0000	OK
Foul Event	F22	5	166.656	0.009	0.2	0.0133	0.0000	OK
Foul Event	F23	25	165.534	0.011	0.3	0.0153	0.0000	OK
Foul Event	F24	30	163.027	0.061	4.2	0.1071	0.0000	OK
Foul Event	F25	30	161.303	0.037	4.5	0.0661	0.0000	OK
Foul Event	F26	3	174.078	0.030	1.0	0.0429	0.0000	OK
Foul Event	F27	5	173.976	0.030	1.0	0.0334	0.0000	OK
Foul Event	F28	7	173.895	0.030	1.1	0.0530	0.0000	OK
Foul Event	F29	7	173.824	0.034	1.4	0.0489	0.0000	OK
Foul Event	F30	23	173.691	0.037	1.7	0.0535	0.0000	OK
Foul Event	F31	26	173.371	0.044	2.1	0.0778	0.0000	OK
Foul Event	F32	26	173.231	0.029	2.5	0.0413	0.0000	OK
Foul Event	F33	27	171.359	0.025	2.5	0.0280	0.0000	OK
Foul Event	F34	27	167.720	0.025	2.5	0.0283	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
Foul Event	F3	1.000	F4	0.5	0.512	0.033	0.0264	
Foul Event	F4	1.001	F5	0.5	0.330	0.032	0.0303	
Foul Event	F5	1.002	F8	1.0	0.402	0.065	0.1284	
Foul Event	F6	2.000	F7	0.1	0.283	0.005	0.0135	
Foul Event	F7	2.001	F8	0.2	0.325	0.012	0.0347	
Foul Event	F8	1.003	F9	1.9	0.544	0.123	0.1932	
Foul Event	F9	1.004	F10	2.4	0.587	0.155	0.1728	
Foul Event	F10	1.005	F11	2.9	0.655	0.187	0.1169	
Foul Event	F11	1.006	F12	2.9	0.661	0.187	0.0657	
Foul Event	F12	1.007	F13	3.0	0.672	0.194	0.2480	
Foul Event	F13	1.008	F14	3.6	0.599	0.285	0.1179	
Foul Event	F14	1.009	F15	3.6	0.607	0.285	0.1576	
Foul Event	F15	1.010	F16	3.6	0.584	0.285	0.1852	
Foul Event	F16	1.011	F17	3.6	0.770	0.285	0.1740	
Foul Event	F17	1.012	F18	3.6	1.172	0.112	0.1378	
Foul Event	F18	1.013	F19	3.6	1.261	0.112	0.1286	
Foul Event	F19	1.014	F20	3.6	1.149	0.090	0.1301	
Foul Event	F20	1.015	F21	3.6	0.604	0.285	0.1779	
Foul Event	F21	1.016	F24	3.7	0.616	0.292	0.1176	
Foul Event	F22	3.000	F23	0.2	0.471	0.007	0.0177	
Foul Event	F23	3.001	F24	0.3	0.547	0.010	0.0149	
Foul Event	F24	1.017	F25	4.2	0.642	0.332	0.3547	
Foul Event	F25	1.018	F62	4.5	1.329	0.129	0.0496	
Foul Event	F26	4.000	F27	1.0	0.542	0.081	0.0373	
Foul Event	F27	4.001	F28	1.0	0.479	0.081	0.0298	
Foul Event	F28	4.002	F29	1.1	0.411	0.087	0.0304	
Foul Event	F29	4.003	F30	1.4	0.472	0.112	0.0653	
Foul Event	F30	4.004	F31	1.7	0.465	0.135	0.1891	
Foul Event	F31	4.005	F32	2.1	0.637	0.167	0.0628	
Foul Event	F32	4.006	F33	2.5	1.175	0.075	0.0864	
Foul Event	F33	4.007	F34	2.5	1.308	0.058	0.0904	
Foul Event	F34	4.008	F35	2.5	1.303	0.058	0.0274	

Results for Foul Event Critical Storm Duration. Lowest mass balance: 98.06%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
Foul Event	F35	28	166.620	0.025	2.5	0.0357	0.0000	OK
Foul Event	F36	28	163.242	0.030	2.9	0.0427	0.0000	OK
Foul Event	F37	3	162.478	0.013	0.4	0.0193	0.0000	OK
Foul Event	F38	29	161.735	0.016	0.4	0.0226	0.0000	OK
Foul Event	F39	30	161.027	0.029	1.0	0.0506	0.0000	OK
Foul Event	F40	3	163.163	0.008	0.2	0.0119	0.0000	OK
Foul Event	F41	6	162.039	0.011	0.2	0.0157	0.0000	OK
Foul Event	F42	12	161.771	0.010	0.2	0.0118	0.0000	OK
Foul Event	F43	14	161.040	0.014	0.4	0.0205	0.0000	OK
Foul Event	F44	30	160.941	0.034	1.4	0.0483	0.0000	OK
Foul Event	F45	30	160.819	0.061	4.3	0.0869	0.0000	OK
Foul Event	F46	30	160.600	0.062	4.3	0.0706	0.0000	OK
Foul Event	F47	30	160.515	0.061	4.4	0.0873	0.0000	OK
Foul Event	F48	5	161.008	0.023	0.6	0.0335	0.0000	OK
Foul Event	F49	8	160.764	0.023	0.6	0.0333	0.0000	OK
Foul Event	F50	12	160.674	0.022	0.6	0.0321	0.0000	OK
Foul Event	F51	29	160.488	0.031	1.2	0.0555	0.0000	OK
Foul Event	F52	30	160.198	0.076	6.2	0.1343	0.0000	OK
Foul Event	F53	30	160.022	0.077	6.2	0.0870	0.0000	OK
Foul Event	F54	30	159.888	0.076	6.2	0.1089	0.0000	OK
Foul Event	F1	4	165.936	0.005	0.1	0.0077	0.0000	OK
Foul Event	F56	30	159.759	0.080	6.5	0.1417	0.0000	OK
Foul Event	F2	199	165.015	0.089	0.1	0.1279	0.0000	OK
Foul Event	F58	6	160.066	0.023	0.6	0.0335	0.0000	OK
Foul Event	F59	30	159.685	0.071	7.1	0.1013	0.0000	OK
Foul Event	F60	28	159.788	0.011	0.2	0.0164	0.0000	OK
Foul Event	F61	30	159.206	0.024	0.7	0.0427	0.0000	OK
Foul Event	F62	30	159.132	0.100	12.9	0.2547	0.0000	OK
Foul Event	F63	30	158.730	0.051	13.3	0.0726	0.0000	OK
Foul Event	F64	22	163.859	0.009	0.3	0.0135	0.0000	OK
Foul Event	F66	23	159.338	0.013	0.7	0.0235	0.0000	OK
Foul Event	F65	1000	157.864	1.277	14.0	1.8268	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
Foul Event	F35	4.009	F36	2.5	1.313	0.058	0.0466	
Foul Event	F36	4.010	F45	2.9	1.177	0.084	0.0471	
Foul Event	F37	5.000	F38	0.4	0.784	0.014	0.0170	
Foul Event	F38	5.001	F39	0.4	0.250	0.023	0.0935	
Foul Event	F39	5.002	F44	1.0	0.403	0.079	0.0356	
Foul Event	F40	6.000	F41	0.2	0.723	0.006	0.0085	
Foul Event	F41	6.001	F42	0.2	0.489	0.010	0.0073	
Foul Event	F42	6.002	F43	0.2	0.316	0.009	0.0262	
Foul Event	F43	6.003	F44	0.4	0.362	0.019	0.0117	
Foul Event	F44	5.003	F45	1.4	0.361	0.110	0.1053	
Foul Event	F45	4.011	F46	4.3	0.632	0.336	0.2184	
Foul Event	F46	4.012	F47	4.3	0.632	0.337	0.0840	
Foul Event	F47	4.013	F52	4.4	0.572	0.344	0.3798	
Foul Event	F48	7.000	F49	0.6	0.472	0.049	0.0621	
Foul Event	F49	7.001	F50	0.6	0.454	0.049	0.0226	
Foul Event	F50	7.002	F51	0.6	0.299	0.048	0.0626	
Foul Event	F51	7.003	F52	1.2	0.329	0.095	0.2919	
Foul Event	F52	4.014	F53	6.2	0.687	0.491	0.2390	
Foul Event	F53	4.015	F54	6.2	0.686	0.493	0.1814	
Foul Event	F54	4.016	F56	6.2	0.673	0.491	0.1851	
Foul Event	F1	11.000	F2	0.1	0.705	0.002	0.0546	0.0
Foul Event	F56	4.017	F59	6.5	0.738	0.515	0.0864	
Foul Event	F58	8.000	F59	0.6	0.460	0.050	0.3159	
Foul Event	F59	4.018	F62	7.1	0.739	0.448	0.5739	
Foul Event	F60	9.000	F61	0.2	0.172	0.012	0.0580	
Foul Event	F61	9.001	F62	0.7	0.298	0.056	0.1614	
Foul Event	F62	1.019	F63	12.9	1.106	0.346	0.6266	
Foul Event	F63	1.020	F65	13.3	2.072	0.098	0.0432	
Foul Event	F64	10.000	F66	0.3	0.662	0.007	0.0202	
Foul Event	F66	10.001	F65	0.7	0.924	0.016	0.0106	
Foul Event	F65	1.021	FW PENSTOCK	13.9	1.129	0.098	0.4121	

Results for Foul Event Critical Storm Duration. Lowest mass balance: 98.06%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
Foul Event	FW PENSTOCK	953	157.863	2.262	13.9	5.7578	0.0000	SURCHARGED
Foul Event	FWPS	959	157.863	2.273	9.7	16.0705	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
Foul Event	FW PENSTOCK	1.022	FWPS	9.7	0.644	0.419	0.1702	0.0